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June 18, 2010

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

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

Enclosed for filing with the California Energy Commission is the original and 1 (one) compact disc of **GENESIS SOLAR, LLC'S REVISED OPENING TESTIMONY** for the Genesis Solar Energy Project (09-AFC-8). The substance of the attached Revised Opening Testimony is submitted to supplant that of Genesis Solar, LLC's Opening Testimony, filed May 20, 2010.

Sincerely,

Marie Mills

Genesis Solar, LLC's

Revised Opening Testimony

Genesis Solar Energy Project (09-AFC-8)

June 18, 2010

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Sincerely,

Marie Mills

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF Scott A Busa**

I, Scott A Busa, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC, as a Director of Business Development.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Executive Summary and Project Description for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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, FL on 16 JUNE, 2010.

Scott A Busa

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** E. Trent Heidorn

I,E. Trent Heidorn, declare as follows:

1. I am presently employed by NextEra Energy, as a Construction Manager.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to the Project Description for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 18, 2010.

E. Trent Heidorn

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Kenneth Stein

I, Kenneth Stein, declare as follows:

1. I am presently employed by NextEra Energy Resourcess, LLC, as an Environmental and Permitting Manager.

2. A copy of my professional qualifications and experience was included herewith (Attachment A to Testimony) and is incorporated by reference in this Declaration.

3. I prepared the attached revised opening testimony relating to Project Description for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Ft. Lauderdale, FL on June 17, 2010.

Kenneth Stein

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening testimony relating to the Project Description for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 17, 2010.

P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Jared Foster

I, Jared Foster, declare as follows:

1. I am presently employed by WorleyParsons, as a Principal Mechanical Engineer.

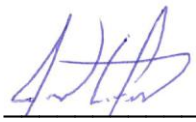
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Project Description for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Sacramento, CA on June 16, 2010.



Jared Foster

GENESIS SOLAR ENERGY PROJECT
PROJECT DESCRIPTION
REVISED OPENING TESTIMONY

I. Name: Scott A Busa, E. Trent Heidorn, Kenneth Stein, P. Duane McCloud and Jared Foster

II. Purpose:

Our Revised Opening Testimony addresses the subject of Executive Summary and Project Description associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

Scott A. Busa: I am presently employed at NextEra Energy Resources, and have been for the past 21 years and am presently a Director with that organization. I have over 23 years of experience development, construction, and operation of Electrical Utilities and Power Generation. I prepared or assisted in the preparation of the Executive Summary and Project Description 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.

E. Trent Heidorn: I am presently employed at NextEra Energy, and have been for the past 5 years and am presently a Construction Manager with that organization. I have a BSCE Degree in Civil Engineering and I have over 30 years of experience in the field of Power Plant Construction. I prepared or assisted in the preparation of the Project Description 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 Project Description 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 Project Description 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.

Jared Foster: I am presently employed at WorleyParsons, and have been for the past 4 years and am presently a Principal Mechanical Engineer with that organization. I have a Bachelor Degree in Mechanical Engineering and I have over 8 years of experience in the field of Mechanical Engineering. I prepared or assisted in the preparation of the Project Description 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 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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 1.0.
Exhibit 6	**BLM Notice of Intent - Federal Register,** dated November 23, 2009, and docketed on December 3, 2009.
Exhibit 9	**Joint CEC - BLM 12-10-09 Hearing and Scoping Presentation,** dated December 10, 2009 and docketed on December 14, 2009.
Exhibit 12	**Genesis Solar, LLC's Informational Hearing & Site Visit Presentation**, dated December 10, 2009, and docketed on December 18, 2009.
Exhibit 20	**Supplement to the Genesis Surface Drainage Data Requests,** dated January 4, 2010, and

docketed on January 11, 2010.

Exhibit 52	**Genesis Solar LLC's Data Responses to CURE's Data Request Set 3, (1 through 2),** dated May 2010, and docketed on May 3, 2010.
Exhibit 55	**Genesis Solar LLC's Minor Changes to the Genesis Solar Energy Project Description,** dated May 21, 2010 and docketed on May 21, 2010.

V. Opinion and Conclusions

We have reviewed the Executive Summary and Project Description sections of the Revised Staff Assessment (RSA) and provide the following changes.

Genesis requests the following Global Changes:

1. ***1.*** Thermal input from the parabolic trough solar field is at a temperature of ***approximately 740°F***
2. ***For the dry cooling scenario the evaporation ponds will comprise a total of up to 10 acres (located within the 1,800-acre site)***;
3. The initiation of project operation should be stated as ***37*** months, not ~~39~~

Genesis requests that the following bullet-point lists be modified as follows to reflect the project components.

Page B.1-3, Major Facilities and Site Arrangement

……

- ***[add] Water supply and treatment infrastructure***

……

Each 125 MW power plant (one for the eastern solar field, and one for the western solar field) consists of:

- STG (Steam Turbine Generator);
- SSG (~~Servicing Scenario~~ ***Solar Steam*** Generator) heat exchangers;

…..

- ***Emergency Diesel Generator***
- ***Emergency Fire Pump***
- Solar thermal collection field

Page B.1-4, Power Generation Process

- ~~CC~~ ***Cooling Tower***
- ~~Between 850 acres and a~~***A***pproximately 1,700 acres of parabolic trough solar collection fields, and HTF piping, pumping, and conditioning system, ~~depending on which alternative is approved~~

In the last paragraph of this section, next page, change the following to reflect the wet cooling tower, instead of the ACC noted in the diagram and the text:

Red lines on the diagram represent HTF piping. Hot HTF flows from top to bottom in the figure, arriving from the solar fields (having captured the sun's energy) and transferring this heat from the sun to the superheater and reheater; from where it then moves the heat energy to the steam generator; and, lastly the HTF flows to the preheater before returning to the solar fields to be heated once again in a continual cycle of renewable, clean energy. The blue lines represent steam and water piping. Feedwater, the portion of the blue line between the ~~ACC~~ ***wet cooling tower*** and the preheater, is heated in a series of feedwater heaters by steam turbine extractions at various pressure levels.

Page B.1-6, Parabolic Trough Collector Loop

The dimensions expressed for length was not on the AFC and should be deleted.

Each of the collector loops consist of two adjacent rows of SCAs ***and*** ~~each row is about 1,300 feet long.~~ the two rows are connected by a crossover pipe. HTF is heated in the loop and enters the header, which returns hot HTF from all loops to the power block where the power generating equipment is located.

Page B.1-6, Auxiliary Boiler, first sentence

Genesis requests that the following sentence be modified to reflect the correct usage of the auxiliary boiler

The auxiliary boiler will be fueled by natural gas and will provide steam for ~~maintaining steam cycle equipment vacuum over night and for~~ startup.

Page B.1-19, PROJECT CONSTRUCTION, last paragraph

Genesis requests that the following sentence be deleted because it is incorrect:

~~However, 9,690 MW of generation in the Genesis cluster Phase I Interconnection study indicated that the project interconnection to the grid would not result in downstream transmission impacts.~~

Page B.1-28, Advantages and Disadvantages of Dry Cooling

Genesis disagrees with the assumed facts in these sections and requests that a more objective analysis would include the following:

Advantages of Dry Cooling Systems

- ~~Dry cooling allows a power plant location to be independent of a water source. It has essentially no water intake or water discharge requirements~~. ***Dry cooling would reduce the use of ground water and discharge requirements.***
- Dry cooling minimizes the use of water treatment chemicals. Dry cooling minimizes the generation of liquid and solid wastes.
- Dry cooling does not generate visible plumes that are commonly associated with wet cooling towers.
- Dry cooling ***may*** eliminate~~s~~ impacts to aquatic biological resources.
- ~~Dry cooling eliminates the need for discharge permits.~~
- Dry cooling ***may*** eliminate~~s~~ the need for disturbance of wetland/aquatic substrate habitat.

Disadvantages of Dry Cooling Systems

- ***A dry cooled project of the same size and output as the proposed project will not produce as much power annually as the proposed project; therefore, may be difficult to financially justify.***
- ***Dry cooling does not eliminate the need for discharge permits.***
- ***For a dry cooled project to produce the same power annually as the proposed project a larger land area would need to be disturbed for installation of the solar field, due to the decrease in cycle efficiency*.**
- Dry cooling requires air-cooled condensers ***which are much larger then cooling towers; therefore, have a larger visual impact*** ~~condensers that could have negative visual effects.~~
- ~~Compared to once-through cooling, dry cooling requires the disturbance of a larger area for the air-cooled condensers than that required for cooling towers.~~

- Dry cooling can have noise impacts that are greater than ~~once-through or~~ wet cooling systems because of the number of fans and the considerably greater total airflow rate. New quieter fans and other mitigation measures are available to reduce these impacts.
- Using dry cooling, the power plant steam cycle efficiency and output ~~can be slightly~~ ***will be measurably reduced*** ~~depending on site conditions and seasonal variations in ambient conditions~~***for plants located in the desert region.*** Also, extra power is needed to operate the cooling fans.
- Capital costs for building air-cooled condensers are generally higher than capital costs for ***wet cooling*** ~~once through cooling~~.

In closing, Genesis wishes to clarify the Project Description and Objectives to be attained as set forth in the AFC, Workshops, Responses to Data Requests and Workshop Queries that confirm the benefits of the project far outweigh the impacts, whether mitigation is required or not.

The objectives for the Genesis Solar Energy Project can be summarized as follows:

1) To construct, operate, and maintain an efficient, economic, reliable, safe, and environmentally sound solar powered generating facility throughout its useful life to help: (i) achieve the State of California objectives mandated by SB 1078 (California Renewable Portfolio Standard Program); (ii) AB 32 (California Global Warming Solutions Act of 2006); and (iii) other local mandates adopted by the State's municipal electric utilities to meet the requirements for the long-term wholesale purchase of renewable electric energy for distribution to their customers. In turn, displacing older, less reliable, gas powered, GHG producing, power plants.
2) To develop a site with an excellent solar resource.
3) To develop a site with close proximity to transmission infrastructure in order to minimize environmental impacts.
4) To develop a new utility-scale solar energy project using proven concentrated solar trough technology.
5) To develop a site with available water resources for operational use in order to optimize power generation efficiency and reduce project cost.
6) Develop and design the Genesis Solar Energy Project to conform to the requirements of the 25-year Power Purchase Agreement (PPA)
7) Address State, regional and local mandates that California's electric utilities have adopted for the provision of renewable energy.
8) Assist the California Independent System Operator (CAISO) in meeting its strategic goals for the integration of renewable resources, as listed in its Five-Year Strategic Plan for 2008 to 2012.

9) From both a State and a regional perspective, contribute to reductions in greenhouse gas emissions. Specifically, each 125-MW solar unit is expected to generate approximately 290,000 megawatt-hours (MWh) per year and will displace the use of approximately 4 billion cubic feet of natural gas typically used by modern high-efficiency natural gas-fired power plants, and reduce the emissions of carbon dioxide (CO2) (a greenhouse gas) by approximately 250,000 tons per year, when compared to a high-efficiency natural gas plant.
10) The location selected for the Project is in an area with good solar direct normal insolation, has sufficient contiguous acreage to build a 250 MW facility, is near transmission, and has level site topography and relative ease of access to the Project Site.
11) The site selection, project configuration and technology must be, and have been, designed to meet the criteria and objectives expressed above for the benefit of the state and the people of the state, which include:
    a) Maximization of energy output at 250MW; the configuration and solar insolation levels capable of efficiently generating greater than 7.0 kilowatt-hours per day per square meter
    b) Efficient delivery of the maximum energy output without burden to the transmission interconnection system in order to ensure the projects economic viability and the concomitant lower delivery and consumer prices
    c) Selection of reasonably priced land with the proper slope to be able to ensure the most efficient use of the land for maximum energy output; in turn, preventing the visual redundancy of multiple sites in various locations in the desert region
    d) Minimize cost and potential environmental impacts by locating close to an existing transmission system without the need for new, long dedicated transmission lines, while also providing good access to water for power plant use.
    e) Eliminating potential project locations, configurations and generation and cooling technologies that do not meet the project objectives and criteria above needed to meet the environmental stewardship, public benefit, cost control and commercial objectives of the designed project

GLOBAL CONDITION OF CERTIFICATION AND VERIFICATION TIMELINES

Genesis has concerns regarding qualification for American Recovery and Reinvestment Act Funding, which should be addressed in the Presiding Member's Proposed Decision. The Project will receive funding under section 1603 of the American Recovery and Reinvestment Act (ARRA). One of the ways that Genesis can obtain this funding is to start construction on the Project in 2010. (ARRA § 1603[a][2].) Genesis notes that the conditions of certification, as currently drafted, would not allow the disturbance of a smaller area targeted for

work to satisfy ARRA's start of construction requirements without also requiring Genesis to comply with all of the other conditions of certification which must be satisfied prior to the commencement of *any* ground disturbance at the Project site. Several of the conditions of certification require significant amounts of time and expense prior to the commencement of ground disturbance. The biological and cultural resources conditions in particular could compromise the Project's ability to start construction before the end of the year.

For example many of the conditions require the submittal and approval of extensive plans like the Biological Resources Mitigation Implementation and Monitoring Plan, at least 60 days prior to the start of any project-related site disturbance activities. Given the significant time and expense required to comply with some of these more general preconstruction requirements, Genesis requests the Committee to add a Condition of Certification to the Presiding Member's Proposed Decision which would allow a smaller area of the Project site to be targeted for ARRA funding qualification purposes, and which would revise the scope of the compliance obligations in the Project's conditions of certification to reflect this ARRA carve-out area. Genesis suggests the following language for this condition of certification and requests it be included in the General Conditions:

> To facilitate the physical commencement of construction for American Recovery and Reinvestment Act (ARRA) funding qualification purposes, any plans, mitigation security or other documentation required by any Condition of Certification prior to commencing construction can be tailored to address just those limited ARRA-related construction activities

In addition, Genesis and Staff discussed adding some flexibility into the Verification language for all of the conditions to facilitate compliance with those conditions. Specifically, rather than dispute Staff's standard timelines, we suggested that every verification include the language "***or a lesser time as mutually agreed between the Project Owner and the CPM"*** after each verification timeline. This will allow Genesis and the CPM to develop a realistic review schedule based on Staff resources at the time of submittal of compliance plans and documents. We understand that Staff was considering this approach which was employed during California's Energy Crisis, however, the RSA does not include the above language. We request that the PMPD include the above language.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** MEG E. RUSSELL

I, MEG RUSSELL, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC., as a Project Director in Business Development.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Alternatives for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 16, 2010.

Meg E. Russell

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF Scott A Busa**

I, Scott A Busa, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC, as a Director of Business Development.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Alternatives for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

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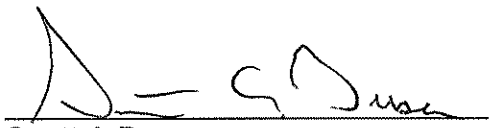
I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Juno Beach, FL on 16 JUNE, 2010.



Scott A Busa

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Kenneth Stein

I, Kenneth Stein, declare as follows:

1. I am presently employed by NextEra Energy Resourcess, 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 revised opening testimony relating to Alternatives for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached revised opening prepared testimony is valid and accurate with respect to issues that it addresses.

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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 Ft. Lauderdale, FL on June 17, 2010.

Kenneth Stein

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Jared Foster

I, Jared Foster, declare as follows:

1. I am presently employed by WorleyParsons, as a Principal Mechanical Engineer.

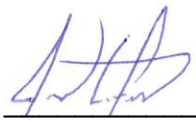
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Alternatives for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Sacramento, CA on June 16, 2010.



Jared Foster

GENESIS SOLAR ENERGY PROJECT
ALTERNATIVES
REVISED OPENING TESTIMONY

I. Name: Meg E. Russell, Scott A. Busa, Kenneth Stein and Jared Foster

II. Purpose:

Our Revised Opening Testimony addresses the subject of Alternatives associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

Meg E. Russell: I am presently employed at NextEra Energy Resources, LLC, and have been for the past two years and am presently a Project Director with that organization. I have a Masters Degree in Business and I have over nine years of experience in the field of Project/Program Management. I prepared or assisted in the preparation of the Alternatives 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.

Scott A. Busa: I am presently employed at NextEra Energy Resources, and have been for the past 21 years and am presently a Director with that organization. I have over 23 years of experience development, construction, and operation of Electrical Utilities and Power Generation. I prepared or assisted in the preparation of the Alternatives 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 Alternatives 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.

Jared Foster: I am presently employed at WorleyParsons, and have been for the past 4 years and am presently a Principal Mechanical Engineer with that organization. I have a Bachelor Degree in Mechanical Engineering and I have over 8 years of experience in the field of

Mechanical Engineering. I prepared or assisted in the preparation of the Alternatives 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 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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 3.10.
Exhibit 11	**Data Requests Set 1A Responses (1 through 227),** dated December 14, 2009, and docketed on December 15, 2009, Responses 39 through 52.
Exhibit 12	**Genesis Solar, LLC's Informational Hearing & Site Visit Presentation,** dated December 10, 2009 and docketed on December 18, 2009.
Exhibit 52	**Genesis Solar LLC's Data Responses to CURE's Data Request Set 3, (1 through 2),** dated May 2010, and docketed on May 3, 2010.

V. Opinion and Conclusions

Genesis has reviewed the Alternatives Section of the Revised Staff Assessment (RSA) and while we may disagree with Staff about how it has reached the ultimate conclusion that the dry-cooled Alternative must be selected by the Committee, we do agree that a reasonable range of alternatives have been adequately analyzed under the California Environmental Quality Act and Commission statutory and regulatory authority.

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 revised opening testimony relating to the Air Quality 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 revised opening 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 revised opening 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 June 17, 2010.

P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Richard B. Booth

I, Richard B. Booth, declare as follows:

1. I am presently employed by Tetra Tech EC, Inc., as a Supervising Project Manager.

2. A copy of my professional qualifications and experience was included in my Opening Testimony.

3. I prepared the attached revised opening testimony relating to Air Quality for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Shingletown, CA on June 16, 2010.

Richard B. Booth

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Kenneth Stein

I, Kenneth Stein, declare as follows:

1. I am presently employed by NextEra Energy Resourcess, 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 revised opening testimony relating to Air Quality for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Ft. Lauderdale, FL on June 17, 2010.

Kenneth Stein

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Jared Foster

I, Jared Foster, declare as follows:

1. I am presently employed by WorleyParsons, as a Principal Mechanical Engineer.

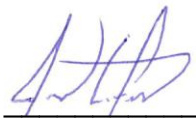
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Air Quality for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Sacramento, CA on June 16, 2010.



Jared Foster

GENESIS SOLAR ENERGY PROJECT
AIR QUALITY
REVISED OPENING TESTIMONY

I. Name: P. Duane McCloud, Richard B. Booth, Kenneth Stein and Jared Foster

II. Purpose:

Our Revised Opening Testimony addresses the subject of the Air Quality Resources associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

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 Air Quality 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.

Richard B. Booth: I am presently employed at Tetra Tech EC, Inc., and have been for the past 5 years and am presently a Supervising Project Manager with that organization. I have a BA Degree in Natural Sciences and I have over 34 years of experience in the field of Air Quality. I prepared or assisted in the preparation of the Air Quality 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 Air Quality 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.

Jared Foster: I am presently employed at WorleyParsons, and have been for the past 4 years and am presently a Principal Mechanical Engineer with that organization. I have a Bachelor Degree in Mechanical

Engineering and I have over 8 years of experience in the field of Mechanical Engineering. I prepared or assisted in the preparation of the Air Quality 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 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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 5.2 and Appendix B.
Exhibit 2	**Air Quality Modeling Files,** dated _____, and docketed on September 17, 2009.
Exhibit 3	**Data Adequacy Supplement,** dated October 2009, and docketed on October 12, 2009.
Exhibit 5	**Tetra Tech Inc. Informational Letter to Mojave Desert Air Quality Management District regarding Additional Permit Applications,** dated October 27, 2009, and docketed on November 18, 2009.
Exhibit 11	**Data Requests Set 1A Responses (1 through 227),** dated December 14, 2009, and docketed on December 15, 2009, Responses 1 through 38.
Exhibit 32	**Applicant's Revised Air Quality Responses to the CEC Data Requests,** dated February 1, 2010, and docketed on February 2, 2010.
Exhibit 37	**Responses to the MDAQMD Inquiries,** dated February 11, 2010, and docketed on February 16, 2010.

Exhibit 51	**Genesis Solar LLC's Proposed Conditions of Certification for Other Resource Areas,** dated April 30, 2010, and docketed on May 3, 2010.
Exhibit 53	**Genesis Solar LLC's Responses to Mojave Desert Air Quality Management District's Request for Additional Information,** dated May 14, 2010, and docketed on May 18, 2010.

V. Opinion and Conclusions

Genesis Solar LLC, (Genesis) has reviewed the analysis and all conditions of certifications embodied in the Revised Staff Assessment and agree that with the modifications below the GSEP will not result in significant air quality impacts and will comply with all air quality-related LORS.

AQ-SC5 **CONDITION OF CERTIFICATION, VERIFICATION (SUB-PART "E")**

Genesis requests the following change in the verification.

> e. All diesel heavy construction equipment shall not idle for more than five minutes. Vehicles that need to idle as part of their normal operation (***including, but not limited to***~~such as~~ concrete trucks) are exempted from this requirement.

Page C.1-1, Second Paragraph

Genesis wishes to clarify several points in the Staff statement below.

> Staff have concluded that the proposed project would not have the potential to exceed Prevention of Significant Deterioration emission threshold levels during direct source operation and the facility is not considered a major stationary source with potential to cause adverse National Environmental Policy Act air quality impacts. However, without adequate control, the fugitive dust emissions from construction would have the potential to exceed Prevention of Significant Deterioration particulate emission threshold levels. This potential exceedance of a federal air quality emission threshold would be considered a direct, adverse impact under National Environmental Policy Act. This impact would be less than adverse with the proposed mitigation measures controlling fugitive dust emissions during construction.

Genesis requests staff and the committee to consider the following:

(1) Construction related emissions (secondary emissions) do not count towards PSD applicability per 40 CFR 52.21(b) (4) and (18), i.e., the interplay of "potential to emit" and "secondary emissions" definitions, and the PSD applicability criteria.
(2) GSEP is not a major source (either for construction or operation) for any identified PSD pollutant. As such, the PSD "significant" emission rates do not apply.

(3) Genesis did not propose an "uncontrolled" construction phase with respect to fugitive dust emissions. The applicant proposed numerous mitigation measures as an integral part of its construction phase for the control of fugitive dust emissions. The Applicant's proposed controls result in fugitive dust emissions during construction of approximately 46 tons of PM_{10} over the 3-year construction period, or an annualized emissions level of approximately 15 tons of PM_{10} per year

(4) Genesis believes that Staff have erred in their application of the PSD emissions thresholds. Applicability of PSD is based on a strict set of applicability criteria as presented in the OAQPS-New Source Review Workshop Manual-10/90, Chapter A, Pages A.1 through A.32.

(5) As such, Genesis concludes that construction emissions are not applicable to, nor do they count towards, a PSD applicability determination. Construction emissions of fugitive dust (PM10 or PM2.5), although not countable towards an applicability determination under PSD, are nonetheless well below the PSD major source applicability threshold of 250 tons per year, and the "significant" emissions rates under PSD do not apply to GSEP construction emissions. Furthermore, the Applicant concludes that there is no potential exceedance of a federal air quality emission threshold and therefore no adverse impact under the National Environmental Policy Act.

Genesis also notes that Staff provides its own clarification on the PSD issue at section C.1.3.4 (bullet item 2), i.e., that PSD applicability thresholds only apply to GSEP operations. This clarification by Staff supports Genesis' statement that "there is no potential exceedance of a federal air quality emission threshold and therefore no adverse impact under the National Environmental Policy Act".

Page C.1-17, First Paragraph

> "The applicant used an oversimplified fugitive dust emission calculation method that staff does not consider appropriate for a project with the construction complexity and requirements of GSEP. Staff believes this

oversimplified calculation method underestimates the fugitive dust emissions during construction." (emphasis added)

Genesis disagrees with staff that the method used to estimate fugitive dust emissions from construction activities is "oversimplified", and that it underestimates fugitive dust emissions during construction. In Genesis' responses to Data Requests (Request #4 , Data Request Set #1, 09-AFC-8, November 13, 2009), Genesis provided a detailed response covering the use of the method chosen as well as a detailed list of credible references to support the method. We reiterate the following summary for the record:

1. The method chosen is based upon the Midwest Research Institute studies per (1) Improvement of Specific Emissions Factors-BACM #1, MRI, 3/96, (2) Estimating Particulate Matter Emissions from Construction Operations, USEPA, MRI, 9/99, and (3) MRI Report of 2005 which updates the PM2.5/PM10 ratios developed for the Western Regional Air Partnership (WRAP).

2. The method chosen is currently used by the California Air Resources Board for the preparation of its statewide fugitive dust emissions inventories for construction activities, and the method is currently delineated and supported in the CARB Area Source Methodology references (Section 7.7, 9/2002).

3. The method chosen is currently delineated in the USEPA, AP-42, Section 13.2.3 (Heavy Construction, 1/1995, corrected 2/2010).

4. The method chosen is currently implemented in the URBEMIS model (Version 9.2.4), Users Manual, Appendix A, Page A-6. The URBEMIS model is presently funded by, and guidance is provided by the following California air districts; Bay Area, Feather River, Imperial, Mendocino, Monterey Bay, Placer, Sacramento Metropolitan, San Joaquin Valley Unified, San Luis Obispo, Santa Barbara, South Coast, and Yolo-Solano. In addition, the Applicant is not aware of any California city or county planning agency that does not recommend, sanction, or allow the use of the URBEMIS model in the evaluation of development project construction phase fugitive dust emissions.

5. The method chosen is currently implemented by the Western Regional Air Partnership (WRAP) in its revised WRAP Fugitive Dust Handbook (9/06, Chapter 3-Construction and Demolition). The WRAP consists of the following State members: Alaska, Hawaii, Washington, Oregon, California, Arizona, New Mexico, Colorado, Utah, Wyoming, Montana, North Dakota, South Dakota, and Idaho, as well as the following federal agencies, the USDA and the USDOI.

6. In addition, the URBEMIS software developers (Rimpo and Associates, Inc.) are currently developing a version of URBEMIS for use in the other 49 states (for use on projects outside of California). The 49-state version will incorporate EPA Mobile 6.2 on-road emissions data as well as EPA NONROAD construction emissions factors. No changes to the construction fugitive dust methodology were noted at this time.

Based on the above, Genesis concludes that the method chosen to estimate fugitive dust emissions from construction activities for GSEP is widely accepted, widely implemented by numerous city, county, state, and federal agencies, and well documented.

In addition, Genesis disagrees with Staff's statement that the method chosen "underestimates" fugitive dust emissions from construction for the following reasons:

- The MRI (1996) report states that "the results from comparing limited emissions measurements to estimated values proved inconclusive, with no clear-cut tendency for over- or under-prediction".

- AP-42 Section 13.2.3 states that "because the above emission factor is referenced to TSP, use of this factor to estimate particulate matter no greater than 10 um in aerodynamic diameter emissions will result in conservatively high estimates. Also, because derivation of the factor assumes that construction activity occurs 30 days per month, the above estimate is somewhat conservatively high for TSP as well." The Applicant assumes that the conservative nature of the overall method per AP-42 is maintained even with the application of the conservative statewide PM10/2.5 fraction values.

- The WRAP Handbook data states that "separate emission factors segregated by type of construction activity provide better estimates of PM10 emissions that are more accurate than estimates obtained using a general emission factor." The applicant partially agrees with this statement, but notes that; (1) the statement only applies to accuracy, not to whether a specific method under- or over-predicts emissions, and (2) the assumption that emissions estimates based on segregated activities "provide better estimates that are more accurate" is not substantiated anywhere in the WRAP Handbook. (See the following comment.)

- Based on data presented in AP-42, the quality ratings of emissions factors (equations and support data) ranges from A to E, i.e., A=excellent, B=above average, C=average, D=below average, and E=poor. Data obtained from the South Coast AQMD website (CEQA page) indicates that for projects seeking to calculate emissions segregated by type of activity, the primary AP-42 sections are, (1) 11.9, (2) 13.2.2, and (3) 13.2.4. A summary review of the quality ratings for factors presented in these sections shows the following:

- Ratings in section 11.9 (Western Mining) for activities such as topsoil scraping/removal, grading, etc., are quality level "E".

- Ratings in section 13.2.2 (Unpaved Roads) for roads being watered and evaluated for future use (prospective analyses), the quality rating drops from level "B" to level "D".

- Ratings in section 13.2.4 (Aggregate Handling and Storage Piles) are generally level "A", but can drop to level "B" or "C" if the site specific data fall outside of the "range of source conditions".

Furthermore, AP-42 Section 13.2.3 (Heavy Construction, Table 13.2.3-1, 2/10) clearly indicates that if the emissions are calculated by activity type using the equations in the various AP-42 sections as noted above, the "quality rating" must be lowered (per the recommended values) due to the application of the method to heavy construction activities. These required adjustments would further reduce the quality level of the calculations, and would by implication impact the level of accuracy of such estimates. This is highlighted by data in this section which requires no adjustment to factors in Section 11.9 because the quality ratings are already at level "E" (poor).

Genesis concludes that, for many of the onsite construction activities which can be segregated by activity type, the quality ratings are typically in the level "D" to "E" range, and we are not convinced, nor can we find any data which indicates that these quality ratings result in any significant increase of emissions calculation accuracy above the method chosen. Nor does this data result in any meaningful insight into whether fugitive dust emissions are over- or under-predicted by any particular method.

Page C.1-23, Third Paragraph

Staff states, "In light of the existing PM10 and ozone non-attainment status for the project site area, staff considers the operation NOx, VOC, and PM emissions to be potentially CEQA significant and recommends that the off-road equipment and fugitive dust emissions be mitigated pursuant to CEQA."

Although Genesis understands the staff criteria for determining significance under CEQA, we are perplexed at how emissions of NOx and VOC from the

proposed off-road equipment used onsite during the operations phase could be "potentially CEQA significant". The emissions from the proposed off-road equipment delineated for onsite use during operations, as well as the MDAQMD CEQA significance thresholds are presented in the table below. The comparison indicates that these emissions are not only "insignificant" but "de minimus" at best, which calls into question the need for further mitigation such as proposed in condition AQ-SC-6.

Comparison of GSEP mobile source related emissions for onsite dedicated equipment versus the MDAQMD CEQA Significance Thresholds.

Pollutant	MDAQMD Annual Threshold, tons	MDAQMD Daily Threshold, lbs	GSEP Onsite Mobile Emissions, tpy	GSEP Onsite Mobile Emissions, lbs/day
NOx	25	137	0.35	0.08
CO	100	548	0.24	0.05
VOC	25	137	0.05	0.01
SOx	25	137	0	0
PM10	15	82	0.03	0.01
PM2.5	15	82	0.03	0.01

The total estimated onsite facility emissions for the operational phase are as follows:

- NOx 1.38 tpy 42.18 lbs/day
- CO 0.56 tpy 17.24 lbs/day
- VOC 7.62 tpy 44.24 lbs/day
- SOx 0.01 tpy 0.26 lbs/day
- PM10 19.49 tpy 125.26 lbs/day
- PM2.5 7.19 tpy 57.96 lbs/day

Onsite mobile emissions from the use of off-road equipment during operations account for the following percentage's of total operational emissions:

- NOx 25.3% of annual 0.19% of daily
- CO 42.9% of annual 0.29% of daily
- VOC 0.66% of annual 0.023% of daily
- SOx negligible
- PM10 0.15% of annual 0.008% of daily
- PM2.5 0.41% of annual 0.017% of daily

The above data does not support further mitigation of onsite operations off-road equipment emissions.

CONDITION OF CERTIFICATION AQ-SC4

The Applicant is requesting that this condition be limited to visible dust plumes in excess of the MDAQMD opacity standards (and evaluation timeframes) as delineated in Rule 401. Use of the Rule 401 evaluation criteria and timeframes will provide a clear and established set of criteria for determining when a visible plume could be potentially problematic offsite.

> **AQ-SC4** Dust Plume Response Requirement: The AQCMM or an AQCMM Delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported (A) off the project site and within 400 feet upwind of any regularly occupied structures not owned by the project owner or (B) 200 feet beyond the centerline of the construction of linear facilities, ***that exceed the opacity limits and time frames in Rule 401*****,** indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits specified. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes

District conditions **AQ-1** through **AQ-40** are CEQA-only required conditions. Genesis has petitioned for changes to many of the AQ conditions listed below.

CONDITION OF CERTIFICATION AQ-7

AQ-7 The project owner shall perform initial compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District ***for review*** initial start up:

CONDITION OF CERTIFICATION AQ-8

AQ-8 The project owner shall perform annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District prior to the expiration date of this permit. The following compliance tests are required:

a. NOx as NO_2 in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20).

b. VOC as CH_4 in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 25A and 18).

c. SOx as SO_2 in ppmvd at 3% oxygen and lb/hr.

d. CO in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Method 10).

e. PM10 in mg/m^3 at 3% oxygen and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5).

f. Flue gas flow rate in dscf per minute.

g. Opacity (measured per USEPA reference Method 9).

Protocol: The project owner shall notify the District and the CPM within fifteen (15) working days before the execution of the compliance test required in this condition. The test results shall be submitted to the District and to the CPM ***no later than six weeks prior to the expiration date of this permit.***

CONDITION OF CERTIFICATION AQ-19

AQ-19 The project owner shall conduct all required cooling tower water tests in accordance with a District-approved test and emissions calculation protocol. ***P***rior to the first such test the project owner shall provide a written test and emissions calculation protocol for District review and approval.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening 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 revised opening 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 revised opening 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 18, 2010.

-Original Signed

_____

Alice E. Karl, Ph.D.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening 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 revised opening prepared 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 revised opening prepared 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 16, 2010.

_____

Emily Festger

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Kenneth Stein

I, Kenneth Stein, declare as follows:

1. I am presently employed by NextEra Energy Resourcess, 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 revised opening 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 revised opening 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 revised opening 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 Ft. Lauderdale, FL on June 17, 2010.

Kenneth Stein

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening 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 revised opening 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 revised opening 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 15, 2010.

Miles D. Kenney

GENESIS SOLAR ENERGY PROJECT
BIOLOGICAL RESOURCES
REVISED OPENING TESTIMONY

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

II. Purpose:

Our Revised Opening Testimony addresses the subject of Biological Resources associated with the construction and operation of 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 attached resume.

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 attached resume.

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 attached resume.

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 attached resume.

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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 5.3 and Appendix C.
Exhibit 3	**Data Adequacy Supplement,** dated October 2009, and docketed on October 12, 2009.
Exhibit 11	**Data Requests Set 1A Responses (1 through 227),** dated December 14, 2009, and docketed on December 15, 2009, Responses (53-121).
Exhibit 16	**Notification of Lake of Streambed Alteration,** dated December 30, 2009, and docketed on December 31, 2009.
Exhibit 17	**Application for Incidental Take of Threatened and Endangered Species,** dated December 31, 2009, and docketed on January 4, 2010.
Exhibit 19	**Draft Desert Tortoise Translocation Plan,** dated January 4, 2010, and docketed on January 6, 2010.

Exhibit 20	**Supplement to the Genesis Surface Drainage Data Requests,** dated January 4, 2010, and docketed on January 11, 2010.
Exhibit 23	**Revised Notification of Lake or Streambed Alteration with Revised Survey for Jurisdictional Waters and Wetlands at the Genesis Solar Energy Project,** dated January 11, 2010 and January 2010, respectively, and docketed on January 14, 2010.
Exhibit 24	**Draft Common Raven Monitoring, Management, & Control Plan,** dated January 2010, and docketed on January 15, 2010.
Exhibit 26	**Interim Preliminary Aeolian Sand Source - Migration and Deposition Letter Report**, dated January 11, 2010, and docketed on January 19, 2010.
Exhibit 30	**Applicant Addenda to DR Requests 64, 65 & 120 of Set 1A,** dated January 27, 2010 and docketed on January 26, 2010.
Exhibit 31	**Draft Weed Management Plan,** dated January 2010, and docketed on February 1, 2010.
Exhibit 34	**Applicant's Draft Revegetation Plan,** dated February 2010, and docketed on February 4, 2010.
Exhibit 35	**Aeolian Transport Evaluation & Ancient Shoreline Delineation Report ,** dated February 5, 2010, and docketed on February 10, 2010.
Exhibit 36	**Report of Conversation Regarding Genesis Surface Drainage DR (Between Mike Daly, Bob Anders & Dipti Sheth),** dated February 9, 2010, and docketed on February 11, 2010.
Exhibit 39	**Applicant's Draft Decommissioning & Closure Plan,** dated February 22, 2010, and docketed on February 24, 2010.

Exhibit 40	**Report of Conversation Regarding Anticipated Direct and Indirect Impacts to Vegetation Communities (Between Mike Monasmith & Tricia Bernhardt),** dated February 22, 2010, and docketed on February 24, 2010.
Exhibit 42	**Genesis Solar LLC's Alternative Proposal for Desert Tortoise Mitigation: A Habitat-Based Approach,** dated February 2010, and docketed on February 26, 2010.
Exhibit 44	**Genesis Solar LLC's Revisions to the Jurisdictional Waters,** dated March 13, 2010, and docketed on March 17, 2010.
Exhibit 45	**Consultant's 2009 Winter Avian Point Count & Burrowing Owl Survey Results,** dated April 2010, and docketed on April 7, 2010.
Exhibit 46	**Genesis Solar LLC's Data Responses to CURE's Data Request Set 1, (1 through 66),** dated April 12, 2010, and docketed on April 12, 2010, Responses 1-66.
Exhibit 47	**Letter from the US Fish & Wildlife Service regarding the Genesis Solar Energy Project proceeding (Comments on the Draft Desert Tortoise Relocation/Translocation Plan),** dated April 15, 2010, and docketed on April 20, 2010.
Exhibit 50	**Genesis Solar LLC's Proposed Biology Conditions of Certification,** dated _____, and docketed on April 29, 2010.
Exhibit 56	**Genesis Solar LLC's Spring Survey Biological Data,** dated May 28, 2010, and docketed on May 28, 2010.

V. Opinion and Conclusions

CONDITION OF CERTIFICATION BIO-8

BIO-8 The Project owner shall undertake the following measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to biological resources:

1. Limit Disturbance Areas. The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging prior to construction activities in consultation with the Designated Biologist. Spoils and topsoil shall be stockpiled in disturbed areas lacking native vegetation and which do not provide habitat for special-status species. Parking areas, staging and disposal site locations shall similarly be located in areas without native vegetation or special-status species habitat. All disturbances, Project vehicles and equipment shall be confined to the flagged areas.

2. Minimize Road Impacts. New and existing roads that are planned for construction, widening, or other improvements shall not extend beyond the flagged impact area as described above. All vehicles passing or turning around would do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction.

3. Minimize Traffic Impacts. Vehicular traffic during Project construction and operation shall be confined to existing routes of travel to and from the Project site, and cross country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit shall not exceed 25 miles per hour on all ***dirt*** roads ***and 45 mph on all paved roads***. Signs shall be established at appropriate locations (for example, at Arizona crossings of drainages) to remind drivers to be aware of the potential for desert tortoise and other wildlife occurring on the roadways.

Rationale: ***During operations, the access road will be traveled by Project personnel as well as vendors and delivery personnel. The access road will be paved and is approximately 6.5 miles long. The speed limit proposed for operations was determined by comparing speed limits within Joshua Tree National Park (45 mph, no tortoise fencing), Mojave National Preserve (55 mph, no tortoise fencing), and Wiley's Well Road south of the Project (55 mph, no tortoise fencing).*** *A 25-mile speed limit on the paved access road would have significant negative economic implications in terms of travel time during both construction and operation*

phases of the project without a commensurate environmental benefit (e.g., very poor quality desert tortoise habitat with no sign that tortoises are using the area near the access road).

4. Monitor During Construction. In areas that have not been fenced with desert tortoise exclusion fencing and cleared, including during fence construction, the Designated Biologist shall be present at the construction site during all Project activities that have potential to disturb soil, vegetation, and wildlife. The Designated Biologist or Biological Monitor shall walk immediately ahead of equipment during brushing and grading activities in unfenced habitat (i.e., outside of the cleared and fenced Plant Site).

5. Minimize Impacts of Pipeline Alignments, Roads, Staging Areas. Staging areas for construction on the plant site shall be within the area that has been fenced with desert tortoise exclusion fencing and cleared. For construction activities outside of the plant site (transmission line, pipeline alignments) access roads, pulling sites, and storage and parking areas shall be designed, installed, and maintained with the goal of minimizing impacts to native plant communities and sensitive biological resources.

6. Implement APLIC Guidelines. Transmission lines and all electrical components shall be designed, installed, and maintained in accordance with the Avian Power Line Interaction Committee's (APLIC's) S*uggested Practices for Avian Protection on Power Lines* (APLIC 2006) and *Mitigating Bird Collisions with Power Lines* (APLIC 1994) to reduce the likelihood of large bird electrocutions and collisions.

7. Avoid Use of Toxic Substances. Soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to wildlife and plants.

8. Minimize Lighting Impacts. Facility lighting shall be designed, installed, and maintained to prevent side casting of light towards wildlife habitat. Lighting shall be kept to the minimum level for safety and security needs by using motion or infrared light sensors and switches to keep lights off when not required, and shielding operational lights downward to minimize skyward illumination. No high intensity, steady burning, bright lights such as sodium vapor or spotlights shall be used. FAA visibility lighting shall employ only strobed, strobe-like or blinking incandescent lights, preferably with all lights illuminating simultaneously. Minimum intensity, maximum "off-phased" duel

strobes are preferred, and no steady burning lights (e.g., L-810s) shall be used.

9. Minimize Noise Impacts. A continuous low-pressure technique shall be used for steam blows, to the extent possible, in order to reduce noise levels in sensitive habitat proximate to the Genesis Project. Loud construction activities (e.g., unsilenced high pressure steam blowing and pile driving, or other) shall be avoided 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.***

Rationale: The purpose of minimizing noise impacts is to insure that wildlife outside the project disturbance area, especially nesting birds, are not adversely affected by construction noise. A buffer distance of 250 feet is mandated for nesting burrowing owls, a California Species of Special Concern and migratory species, so it is used as the benchmark for species that have a lesser legal status or none. However, if birds either habituate to the noise prior to nesting or are not affected by project noise such that nest failure would result, then the objective of the protection measure has been met. The background discussion for the SA states that "infrequent occasions when construction activities would occur near the project boundary and resultant noise levels would be temporarily elevated beyond 60 dBA surrounding the project would not significantly impact sensitive wildlife."

CONDITION OF CERTIFICATION BIO-9

BIO-9 The Project owner shall undertake appropriate measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to desert tortoise. Methods for clearance surveys, fence specification and installation, tortoise handling, artificial burrow construction, egg handling and other procedures shall be consistent with those described in the USFWS' 2009 *Desert Tortoise Field Manual* <http://www.fws.gov/ventura/speciesinfo/protocols_guidelines> or more current guidance provided by CDFG and USFWS. The Project owner shall also implement all terms and conditions described in the Biological Opinion prepared by USFWS. These measures include, but are not limited to, the following:

1. Desert Tortoise Exclusion Fence Installation. Per the Applicant's Desert Tortoise Translocation Plan, in order to avoid impacts to desert tortoises, permanent desert tortoise exclusion fencing shall be installed along the permanent perimeter security fence; along the utility corridors, ***temporary*** fencing or monitoring will be used to protect desert tortoises ~~and temporarily installed along the utility corridors~~. The proposed alignments for the permanent perimeter fence and utility rights-of-way fencing shall be flagged and surveyed within 24 hours prior to the initiation of fence construction. Clearance surveys of the perimeter fence and utility rights-of-way alignments shall be conducted by the Designated Biologist(s) using techniques outlined in the USFWS' 2009 *Desert Tortoise Field Manual* and may be conducted in any season with USFWS and CDFG approval. Biological Monitors may assist the Designated Biologist under his or her supervision. These fence clearance surveys shall provide 100-percent coverage of all areas to be disturbed and an additional transect along both sides of the fence line. This fence line transect shall cover an area approximately 90 feet wide centered on the fence alignment. Transects shall be no greater than 15 feet apart. All desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, shall be examined to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS' 2009 *Desert Tortoise Field Manual*. Any desert tortoise located during fence clearance surveys shall be handled by the Designated Biologist(s) in accordance with the Applicant's Translocation Plan.

CONDITION OF CERTIFICATION BIO-12

Genesis Solar, LLC believes that under NECO the compensatory mitigation for desert tortoise habitat impacts should be zero because the 1,749 acres

impacted by the Project is not "categorized" by BLM, and no sign that desert tortoises use the site was detected during protocol surveys. However, per our Proposal for Desert Tortoise Mitigation: A Habitat-Based Approach for the Genesis Solar Energy Project, we are proposing to acquire 904 acres (914 minus 10.01 acres for the "toe" reduction) of desert tortoise habitat to compensate for Project impacts to 904 acres of suitable or marginally suitable desert tortoise habitat, plus 115 acres for impacts to 23 acres of tortoise critical habitat.

BIO-12 To fully mitigate for habitat loss and potential take of desert tortoise, the Project owner shall provide compensatory mitigation at a 1:1 ratio for impacts to ~~1749~~ *904* acres, and at a 5:1 ratio for impacts to 23 acres of critical habitat, adjusted to reflect the final Project footprint. For purposes of this condition, the Project footprint means all lands disturbed in the construction and operation of the Genesis Project, including all linears, as well as undeveloped areas inside the Project's boundaries that will no longer provide viable long-term habitat for the desert tortoise. To satisfy this condition, the Project owner shall acquire, protect and transfer no fewer than ~~1,864~~ *1,019* acres of desert tortoise habitat lands (adjusted to reflect the final Project footprint), and shall also provide funding for the initial improvement and long-term maintenance and management of the acquired lands, and comply with other related requirements in this condition. Costs of these requirements are estimated to be ~~$4,249,920~~ *$2,323,320* based on the acquisition of ~~1,864~~ *1,019* acres and estimated per-acre costs of $500 for acquisition, $330 for initial habitat improvement, and $1,450 for long-term management. The actual costs to comply with this condition will vary depending on the final footprint of the Project, the actual costs of acquiring compensation habitat, the costs of initially improving the habitat, and the actual costs of long-term management as determined by a PAR report. The ~~1,864~~ *1,019* acre habitat requirement, and associated funding requirements based on that acreage, will be adjusted up or down if there are changes in the final footprint of the Project.

Condition **BIO-29** may provide the Project owner with another option for satisfying some or all of the requirements in this condition.

The requirements for the acquisition, initial improvement, protection and long-term maintenance and management of compensation lands include all of the following:

a. Selection Criteria for Compensation Lands. The *quality* ***and function of the*** compensation lands selected for acquisition shall *be equal to or better than the quality and function of the habitat impacted and*:

a. be within the Colorado Desert Recovery Unit, with potential to contribute to desert tortoise habitat connectivity and build linkages between desert tortoise designated critical habitat, known populations of desert tortoise, and/or other preserve lands;

b. provide habitat for desert tortoise with capacity to regenerate naturally when disturbances are removed;

c. be near larger blocks of lands that are either already protected or planned for protection, or which could feasibly be protected long-term by a public resource agency or a non-governmental organization dedicated to habitat preservation;

d. be connected to lands where desert tortoises can be reasonably expected to occur ~~currently occupied by desert tortoise~~, based on habitat or historic occurrences, ideally with populations that are stable, recovering, or likely to recover;

e. not have a history of intensive recreational use or other disturbance that does not have the capacity to regenerate naturally when disturbances are removed or might make habitat recovery and restoration infeasible;

f. not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration;

g. not contain hazardous wastes that cannot be removed to the extent that the site could not provide suitable habitat; and

h. have water and mineral rights included as part of the acquisition, unless the CPM, in consultation with CDFG, BLM and USFWS, agrees in writing to the acceptability of land without these rights.

b. Review and Approval of Compensation Lands Prior to Acquisition. The Project owner shall submit a formal acquisition proposal to the CPM describing the parcel(s) intended for purchase. This acquisition proposal shall discuss the suitability of the proposed parcel(s) as compensation lands for desert tortoise in relation to the criteria listed above, and must be approved by the CPM. The CPM will share the proposal with and consult with CDFG, BLM and the USFWS before deciding whether to approve or disapprove the proposed acquisition.

c. Compensation Lands Acquisition Requirements. The Project owner shall comply with the following requirements relating to acquisition of

the compensation lands after the CPM, in consultation with CDFG, BLM and the USFWS, has approved the proposed compensation lands:

a. Preliminary Report. The Project owner, or approved third party, shall provide a recent preliminary title report, initial hazardous materials survey report, biological analysis, and other necessary or requested documents for the proposed compensation land to the CPM. All documents conveying or conserving compensation lands and all conditions of title are subject to review and approval by the CPM, in consultation with CDFG, BLM and the USFWS. For conveyances to the State, approval may also be required from the California Department of General Services, the Fish and Game Commission and the Wildlife Conservation Board.

b. Title/Conveyance. The Project owner shall acquire and transfer fee title to the compensation lands, a conservation easement over the lands, or both fee title and conservation easement, as required by the CPM in consultation with CDFG. Any transfer of a conservation easement or fee title must be to CDFG, a non-profit organization qualified to hold title to and manage compensation lands (pursuant to California Government Code section 65965), or to BLM or other public agency approved by the CPM in consultation with CDFG. If an approved non-profit organization holds fee title to the compensation lands, a conservation easement shall be recorded in favor of CDFG or another entity approved by the CPM. If an entity other than CDFG holds a conservation easement over the compensation lands, the CPM may require that CDFG or another entity approved by the CPM, in consultation with CDFG, be named a third party beneficiary of the conservation easement. The Project owner shall obtain approval of the CPM, in consultation with CDFG, of the terms of any transfer of fee title or conservation easement to the compensation lands.

c. Initial Protection and Habitat Improvement. The Project owner shall fund activities that the CPM, in consultation with the CDFG, USFWS and BLM, requires for the initial protection and habitat improvement of the compensation lands. These activities will vary depending on the condition and

location of the land acquired, but may include trash removal, construction and repair of fences, invasive plant removal, and similar measures to protect habitat and improve habitat quality on the compensation lands. The costs of these activities is estimated at $330 an acre, but will vary depending on the measures that are required for the compensation lands. A non-profit organization, CDFG or another public agency may hold and expend the habitat improvement funds if it is qualified to manage the compensation lands (pursuant to California Government Code section 65965), if it meets the approval of the CPM in consultation with CDFG, and if it is authorized to participate in implementing the required activities on the compensation lands. If CDFG takes fee title to the compensation lands, the habitat improvement fund must be paid to CDFG or its designee.

d. Property Analysis Record. Upon identification of the compensation lands, the Project owner shall conduct a Property Analysis Record (PAR) or PAR-like analysis to establish the appropriate amount of the long-term maintenance and management fund to pay the in-perpetuity management of the compensation lands. The PAR or PAR-like analysis must be approved by the CPM, in consultation with CDFG, before it can be used to establish funding levels or management activities for the compensation lands.

e. Long-term Maintenance and Management Funding. The Project owner shall provide money to establish an account with non-wasting capital that will be used to fund the long-term maintenance and management of the compensation lands. The amount of money to be paid will be determined through an approved PAR or PAR-like analysis conducted for the compensation lands. The amount of required funding is initially estimated to be $1,450 for every acre of compensation lands. If compensation lands will not be identified and a PAR or PAR-like analysis completed within the time period specified for this payment (see the verification section at the end of this condition), the Project owner shall either provide initial payment of ~~$2,702,800~~ *$1,477,550* (calculated at $1,450 an acre for ~~1,864~~ *1,019* acres) or the Project owner shall include ~~$2,702,800~~ *$1,477,550* to reflect this amount in the security that is provided to the Energy

Commission under section 3.h. of this condition. The amount of the required initial payment or security for this item shall be adjusted for any change in the Project footprint as described above. If an initial payment is made based on the estimated per-acre costs, the Project owner shall deposit additional money as may be needed to provide the full amount of long-term maintenance and management funding indicated by a PAR or PAR-like analysis, once the analysis is completed and approved. If the approved analysis indicates less than $1,450 an acre will be required for long-term maintenance and management, the excess paid will be returned to the Project owner. The Project owner must obtain the CPM's approval of the entity that will receive and hold the long-term maintenance and management fund for the compensation lands. The CPM will consult with CDFG before deciding whether to approve an entity to hold the Project's long-term maintenance and management funds.

The Project owner shall ensure that an agreement is in place with the long-term maintenance and management fund holder/manager to ensure the following requirements are met:

i. Interest. Interest generated from the initial capital long-term maintenance and management fund shall be available for reinvestment into the principal and for the long-term operation, management, and protection of the approved compensation lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action that is approved by the CPM in consultation with CDFG and is designed to protect or improve the habitat values of the compensation lands.

ii. Withdrawal of Principal. The long-term maintenance and management fund principal shall not be drawn upon unless such withdrawal is deemed necessary by the CPM, in consultation with CDFG, or by the approved third-party long-term maintenance and management fund manager, to ensure the continued viability of the species on the compensation lands.

iii. Pooling Long-Term Maintenance and Management Funds. An entity approved to hold long-term maintenance and management funds for the Project may pool those funds with similar non-wasting funds that it holds from other projects for long-term maintenance and management of compensation lands for local populations of desert tortoise. However, for reporting purposes, the long-term maintenance and management funds for this Project must be tracked and reported individually to the CPM and CDFG.

f. Other expenses. In addition to the costs listed above, the Project owner shall be responsible for all other costs related to acquisition of compensation lands and conservation easements, including but not limited to the title and document review costs incurred from other state agency reviews, overhead related to providing compensation lands to CDFG or an approved third party, escrow fees or costs, environmental contaminants clearance, and other site cleanup measures.

g. Management Plan. The Project owner or approved third party shall prepare a management plan for the compensation lands in consultation with the entity that will be managing the lands. The plan shall be submitted for approval of the CPM, in consultation with CDFG, BLM and USFWS.

h. Mitigation Security. The Project owner shall provide financial assurances to the CPM, with copies of the final document to CDFG, to guarantee that an adequate level of funding is available to implement any of the mitigation measures required by this condition that are not completed prior to the start of ground-disturbing Project activities. Financial assurances shall be provided to the CPM in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security") approved by the CPM in consultation with CDFG. Prior to submitting the Security to the CPM, the Project owner shall obtain the CPM's approval, in consultation with CDFG, of the form of the Security. The CPM may draw on the Security if the CPM determines the Project owner has failed to comply with the requirements specified in this condition. The CPM may use money from the Security solely for

implementation of the requirements of this condition, The CPM's use of the Security to implement measures in this condition may not fully satisfy the Project owner's obligations under this condition. The Security shall be returned to the Project owner in whole or in part upon successful completion of the associated requirements in this condition.

Security shall be provided in the amount of ~~$4,249,920~~, *$2,323,320*, calculated as follows but adjusted as specified below:

i. land acquisition costs for compensation land, calculated at $500/acre = $*509,500* ~~932,000~~ **.**

ii. initial protection and habitat improvement activities on the compensation land, calculated at $330/acre = $*336,270* ~~615,120~~ **.**

iii. long-term maintenance and management on the compensation land calculated at $1,450/acre = ~~$2,702,800~~ *$1,477,550***.**

CONDITION OF CERTIFICATION BIO-14

BIO-14 The Project owner shall implement a Weed Management Plan that meets the approval of the CPM. The objective of the Weed Management Plan shall be to prevent the introduction of any new weeds and the spread of existing weeds as a result of Project construction, operation, and decommissioning. The draft Weed Management Plan submitted by the Applicant (TTEC 2009g) shall provide the basis for the final plan, subject to review and revisions from the CPM. The Final Weed Management Plan shall include at a minimum the following information: specific weed management objectives and measures for each target non-native weed species; baseline conditions; a map of the Weed Management Areas; weed risk assessment and measures to prevent the introduction and spread of weeds; monitoring and surveying methods; and reporting requirements.

To ensure that weed management does not have unintended adverse effects on special-status species, the final Weed Management Plan shall be revised to be consistent with guidelines for safe use of herbicides in natural areas provided by The Nature Conservancy's The Global Invasive Species Team: http://www.invasive.org/gist/products/library/herbsafe.pdf

The final Plan shall include detailed specifications for avoiding herbicide and soil stabilizer drift, and shall include a list of herbicides and soil stabilizers that will be used on the Project with manufacturer's guidance on appropriate use. The Plan shall Indicate where the herbicides will be used, and what techniques will be used to avoid chemical drift or residual toxicity to special-status species and their pollinators, and consistent with the Nature Conservancy guidelines and the criteria under #2, below.

The final plan shall only include weed control measures for target weeds with a demonstrated record of success, based on the best available information from ***sources such as:*** The Nature Conservancy's The Global Invasive Species Team, ***Cooperative Extension***, California Invasive Plant Council: http://www.cal-ipc.org/ip/management/plant_profiles/index.php , and the California Department of Food & Agriculture Encycloweedia: http://www.cdfa.ca.gov/phpps/ipc/encycloweedia/encycloweedia_hp.htm. The methods shall meet the following criteria:

1. Manual: well-timed removal of plants or seed heads with hand tools; seed heads and plants must be disposed of in accordance with guidelines from the Riverside County Agricultural Commissioner.

2. Chemical: Herbicides known to have residual toxicity, such as pre-emergents and pellts, shall not be used in natural areas or within the engineered channels. Only the following application methods may be used: wick (wiping onto leaves); inner bark injection; cut stump; frill or hack & squirt (into cuts in the trunk); basal bark girdling; foliar spot spraying with backpack sprayers or pump sprayers at low pressure or with a shield attachment to control drift, and only on windless days, or with a squeeze bottle for small infestations ~~(see Nature Conservancy guidelines described above~~);

3. Biological: Biological methods may be used subject to review and approval by CDFG and USFWS and only if approved for such use by CDFA, and are either locally native species or have no demonstrated threat of naturalizing or hybridizing with native species;

4. Mechanical: disking, tilling, and mechanical mowers or other heavy equipment shall not be employed in natural areas but hand weed trimmers (electric or gas-powered) may be used. Mechanical trimmers shall not be used during periods of high fire risk and shall only be used with implementation of fire prevention measures (GSEP 2009a).

Verification: No less than 10 days prior to start of any Project-related ground disturbance activities, the Project owner shall provide the CPM with the final version of a Weed Management Plan that has been reviewed and approved by Energy Commission staff, USFWS, and CDFG. Modifications to the approved Weed Control Plan shall be made only after consultation with the Energy Commission staff, USFWS, and CDFG.

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

On January 31st of each year following construction the Designated Biologist shall provide a report to the CPM that includes: a summary of the results of noxious weeds surveys and management activities for the year; a discussion of whether weed management goals for the year were met; and recommendations for weed management activities for the upcoming year.

CONDITION OF CERTIFICATION BIO-15

BIO-15 Pre-construction nest surveys ***for bird species other than burrowing owls*** shall be conducted if construction activities would occur at any time during the period of February 1 through July 31***. Burrowing owl nest surveys are addressed in BIO-18.*** The Designated Biologist or Biological Monitor conducting the surveys shall be experienced bird surveyors familiar with standard nest-locating techniques such as those described in Martin and Guepel (1993). The goal of the nesting surveys shall be to identify the general location of the nest sites, sufficient to establish a protective buffer zone around the potential nest site, and need not include identification of the precise nest locations. Surveyors performing nest surveys shall not concurrently be conducting desert tortoise surveys. The bird surveyors shall perform surveys in accordance with the following guidelines:

1. Surveys shall cover all potential nesting habitat in the Project site or within 500 feet of the boundaries of the site (including linear facilities);

2. At least two pre-construction surveys shall be conducted, separated by a minimum 10-day interval. One of the surveys shall be conducted within the 7-day period preceding initiation of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed three weeks, an interval during which birds may establish a nesting territory and initiate egg laying and incubation;

3. If active nests are detected during the survey, a buffer zone and monitoring plan shall be developed. The size of the buffer zone shall be developed in consultation with CDFG and shall be determined based on the species specific alert distance and flush initiation distance[1]. Nest locations shall be mapped and submitted, along with a report stating the survey results, to the CPM; and

4. The Designated Biologist or Biological Monitor shall monitor the nest until he or she determines that nestlings have fledged and dispersed; activities that might, in the opinion of the Designated Biologist, disturb nesting activities, shall be prohibited within the buffer zone until such a determination is made.

Verification: ~~At least 10 days~~ ***P***rior to the start of any Project-related ground disturbance activities, the Project owner shall provide the CPM a letter-report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor (s); and a list of species observed. If active nests are detected during the survey, the report shall include a map or aerial photo identifying the location of the nest and shall depict the boundaries of the no-disturbance buffer zone around the nest(s) that would be avoided during project construction.

No later than January 31st of every year following construction a follow-up report shall be provided to the CPM, CDFG, and USFWS describing the success of the buffer zones in preventing disturbance to nesting activity and a brief description of the outcome of the nesting effort (for example, whether young were successfully fledged from the nest or if the nest failed).

CONDITION OF CERTIFICATION BIO-17

BIO-17 To avoid direct impacts to American badgers and desert kit fox, pre-construction surveys shall be conducted for these species concurrent with the desert tortoise surveys. Surveys shall be conducted as described below:

Biological Monitors shall perform pre-construction surveys for badger and kit fox dens in the Project area, including areas within ~~250~~ ***90*** feet of all Project facilities, utility corridors, and access roads. Surveys may be concurrent with desert tortoise surveys. If dens are detected each den shall be classified as inactive, potentially active, or definitely active.

[1] Alert distance refers to the distance between an animal and an activity when the animal becomes visibly alert (as evidenced by cessation of feeding and scrutiny of activity). Flush initiation distance, also called flight distance, refers to the distance between the animal and an activity when the animal takes flight (Taylor and Knight 2003).

Inactive dens that would be directly impacted by construction activities shall be excavated by hand and backfilled to prevent reuse by badgers or kit fox. Potentially and definitely active dens that would be directly impacted by construction activities shall be monitored by the Biological Monitor for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand. If tracks are observed, and especially if high or low ambient temperatures could potentially result in harm to kit fox or badger from burrow exclusion, various passive hazing methods may be used to discourage occupants from continued use. After verification that the den is unoccupied it shall then be excavated and backfilled by hand to ensure that no badgers or kit fox are trapped in the den. ***Badgers or foxes may also be trapped in Havahart or other live traps and removed.*** BLM approval may be required prior to release of badgers on public lands.

Verification: The Project owner shall submit a report to the CPM and CDFG within 30 days of completion of badger and kit fox surveys. The report shall describe survey methods, results, impact avoidance and minimization measures implemented, and the results of those measures.

Rationale: A distance of 90 feet is used for desert tortoise surveys adjacent to the Project area. The desert tortoise is a federally and state-listed species, so should represent the benchmark for other species.

According to the CDFG Code, there are provisions for trapping both kit foxes and badgers. CDFG Code 4000 and 4001, kit foxes and badgers may be taken seasonally, with a hunting permit.

CONDITION OF CERTIFICATION BIO-18

BIO-18 The Project owner shall implement the following measures to avoid, minimize and offset impacts to burrowing owls:

1. Pre-Construction Surveys. The Designated Biologist or Biological Monitor shall conduct pre-construction surveys for burrowing owls no more than 30 days prior to initiation of construction activities. ***These additional surveys will be*** ~~Surveys shall be~~ focused ***in areas where burrowing owls or burrows showing owl use were observed during desert tortoise clearance surveys***. ***The surveys will focus*** exclusively on detecting burrowing owls, and shall be conducted from two hours before sunset to one hour after or from one hour

before to two hours after sunrise. The survey area shall include the Project Disturbance Area and surrounding 500 foot survey buffer.

2. Implement Avoidance Measures. If an active burrowing owl burrow is detected within 500 feet from the Project Disturbance Area the following avoidance and minimization measures shall be implemented:

   a. Establish Non-Disturbance Buffer. Fencing shall be installed at a 250-foot radius from the occupied burrow to create a non-disturbance buffer around the burrow. The non-disturbance buffer and fence line may be reduced to 160 feet if all Project-related activities that might disturb burrowing owls would be conducted during the non-breeding season (September 1st through January 31st). Signs shall be posted in English and Spanish at the fence line indicating no entry or disturbance is permitted within the fenced buffer.

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

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

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

   b. Suitable relocation sites will be in areas of suitable habitat for nesting, including minimal human disturbance and access and no unusual weed concentrations;

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

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

e. Prepare a monitoring and management of the relocated burrowing owl site, and provide a reporting plan. The objective of the plan shall be to manage the relocation area for the benefit of burrowing owls, with the specific goals of:

i. maintaining the functionality of the burrows ***for a maximum of two years.***

~~ii. Minimizing the occurrence of weeds (species considered "moderate" or "high" threat to California wildlands as defined by CAL-IPC [2006] and noxious weeds rated "A" or "B" by the California Department of Food and Agriculture and any federal-rated pest plants [CDFA 2009]) at less than 10 percent cover of the shrub and herb layers.~~

Rationale: If owls are using the burrows, then the burrows should not be disturbed. If owls do not use the burrows for two years, then it is assumed that the relocated owls have chosen other nest burrows. So, they will not be maintained.

Weeds are already present throughout the Project Vicinity. The relocation area will not be in an area with unusually high concentrations of weeds. So, no additional weed control will be implemented.

4. Acquire Compensatory Mitigation Lands for Burrowing Owls. The following measures for compensatory mitigation shall apply only if burrowing owls that are detected within the Project Disturbance Area. The Project owner shall acquire, in fee or in easement, 19.5 acres of land for each burrowing owl that is displaced by construction of the Project. Staff anticipates displacement of two owls for a total of 39 acres of compensatory mitigation land. ***This compensation acreage of 19.5 acres per single bird or pair of nesting owls assumes that there is no evidence that the compensation lands are occupied by burrowing owls. If burrowing owls are observed to occupy***

the compensation lands, then only 9.75 acres per single bird or pair is required, per CDFG (1995) guidelines. If the compensation lands are contiguous to currently occupied habitat, then the replacement ratio will be 13.0 acres per pair or single bird. All measures below that are based on a compensation lands total of 39 acres would be revised accordingly. The Project owner shall provide funding for the enhancement and long-term management of these compensation lands. The acquisition and management of the compensation lands may be delegated by written agreement to CDFG or to a third party, such as a non-governmental organization dedicated to habitat conservation, subject to approval by the CPM, in consultation with CDFG and USFWS prior to land acquisition or management activities. Additional funds shall be based on the adjusted market value of compensation lands at the time of construction to acquire and manage habitat. ***In lieu of acquiring lands itself, the Project owner may satisfy the requirements of this condition by depositing funds into the Renewable Energy Action Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF), as described in Section 3.i. of Condition of Certification BIO-12.***

5. Criteria for Burrowing Owl Mitigation Lands. The terms and conditions of this acquisition or easement shall be as described in Paragraph 1 of **BIO-12** [Desert Tortoise Compensatory Mitigation], with the additional criteria to include: 1) the 39 acres of mitigation land must provide suitable habitat for burrowing owls, and 2) ***may not be isolated from other suitable burrowing owl habitat such that the compensation area would comprise a habitat island that would either not be used by owls or would contribute little to nothing to the population and species conservation.*** ~~the acquisition lands must either currently support burrowing owls or be within dispersal distance from an active burrowing owl nesting territory (generally approximately 5 miles).~~ The 39 acres of burrowing owl mitigation lands may be included with the desert tortoise mitigation lands ONLY if these two burrowing owl criteria are met. If the 39 acre of burrowing owl mitigation land is separate from the acquisition required for desert tortoise compensation lands, the Project owner shall fulfill the requirements described below in this condition.

    a. Security. The Security measures described below is based on the assumption that two owls would be impacted by construction of the Project, and would therefore require 39 acres of compensatory mitigation land. If the 39 acres of

burrowing owl mitigation land is separate from the acreage required for desert tortoise compensation lands the Project owner or an approved third party shall complete acquisition of the proposed compensation lands prior to initiating ground-disturbing Project activities. Alternatively, financial assurance can be provided by the Project owner to the CPM with copies of the document(s) to CDFG, BLM and the USFWS, to guarantee that an adequate level of funding is available to implement the mitigation measure described in this condition. These funds shall be used solely for implementation of the measures associated with the Project. Financial assurance can be provided to the CPM in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security") prior to initiating ground-disturbing Project activities. Prior to submittal to the CPM, the Security shall be approved by the CPM, in consultation with CDFG, BLM and the USFWS to ensure funding. As of the publication of the RSA, this amount is $44,460 but this amount may change based on land costs or the estimated costs of enhancement and endowment (see subsection C.2.4.2, Desert Tortoise, for a discussion of the assumptions used in calculating the Security, which are based on an estimate of $2,280 per acre to fund acquisition, enhancement, and long-term management). The final amount due will be determined by the PAR analysis conducted pursuant to **BIO-12**.

CONDITION OF CERTIFICATION BIO-19

BIO-19 The Project owner shall implement the following measures to avoid, minimize, and mitigate impacts to special-status plant species:

~~Section A: Special-Status Plant Avoidance and Minimization Measures~~

Comment: All of Section A discusses avoidance measures. It will become part of the current Section D, Point 1, to increase cohesion in this Condition.

It is recognized that onsite avoidance will not be possible where 100% site grading and surface disruption is necessary to construct and operate the Project, or on any area that has been cleared during construction. Where feasible, within the constraints of construction, special-status species ~~To protect all~~

~~special-status plants~~[2] located within 100 feet of the permitted Project Disturbance Area (including access roads, staging areas, laydown areas, parking and storage areas) ***will be protected*** from accidental and indirect impacts during construction, operation, and closure~~,~~ ***T***he Project owner shall implement the following measures:

1. Designated Botanist. An experienced botanist who meets the qualifications described in Section **B-2** below shall oversee compliance with all special-status plant avoidance, minimization, and compensation measures. ~~described in this condition throughout construction, operation, and closure. The Designated Botanist shall oversee and train all other Biological Monitors tasked with conducting botanical survey and monitoring work.~~

Rationale: A Designated Botanist is not needed after construction.

2. Special-Status Plant ~~Impact Avoidance and Minimization Plan~~ *Protection Measures*. The Project owner shall ~~develop and implement~~ ***incorporate special-*** ~~Status~~ ***status*** ~~Plant~~ ***plant*** ~~Impact Avoidance and Minimization Plan and shall incorporate the Plan~~ ***protection measures*** into the BR***M***IMP (**BIO-7**). The***se measures*** ~~Plan~~ shall include the following elements:

Rationale: With few exceptions, the measures below that Staff would include in a stand-alone plan are either already included in other plans (e.g., BIO-6, BIO-14), existing Project design features, or are standard biological resources protection measures that are equivalent to those for other non-listed, special-status species. No listed, special-status plants have been observed at Genesis; nor are they expected to be found during Fall 2010 surveys, and therefore a separate Plan is not necessary.

   a. Site Design Modifications: Incorporate site design modifications to minimize impacts to special-status plants along the Project linears: limiting the width of the work area; adjusting the location of staging areas, lay downs, spur roads and poles or towers; driving and crushing vegetation as an alternative to blading temporary roads to preserve the seed bank, and minor adjustments to the alignment of the roads and pipelines within the constraints of the ROW. Modify the engineered channel

[2] ***Special-status plants include federally and state-listed or candidate species, BLM Sensitive species, and CNPS Lists 1 and 2 species. Species in CNPS Lists 3 and 4 are not included unless these species, if present at the Project, are considered to be locally significant or meet the definition of rare or endangered as described by Section 15380 of the CEQA Guidelines (CDFG. 2009 Protocols For Surveying And Evaluating Impacts To Special-Status Native Plant Population And Natural Communities. 7pp. Available at www.dfg.ca.gov/biogeodata/cnddb/pdf/protocols.)***

discharge points to maintain the natural surface drainage patterns between the engineered channel and the outlet of the natural washes at Ford Dry Lake. These modifications shall be clearly depicted on the grading and construction plans, and on report-sized maps in the BRMIMP;

b. Establish Environmentally Sensitive Areas (ESAs). ***Determine locations of special-status plant populations during pre-construction surveys, if those surveys can be conducted when plants would be present and identifiable. Where possible, and within the constraints of construction,*** ~~Before construction~~ establish ESAs to protect avoided ***special-status*** plants ***within 100 ft of construction***. ***ESAs will not be established on the solar field or along the Project where 100% site grading and surface disruption is necessary to construct and operate the Project.*** The locations of ESAs shall be clearly depicted on construction drawings, which shall also include all avoidance and minimization measures on the margins of the construction plans. The boundaries of the ESAs shall be placed a minimum of 20 feet from the uphill side of the ***plant population*** occurrence and 10 feet from the downhill side, ***as much as feasible***. ***Where this buffer is not practical because of construction constraints, other barriers, such as coirs or drift fences, may be employed to protect ESAs.*** ~~and~~ ***ESAs*** shall be clearly delineated in the field with temporary construction fencing and signs prohibiting movement of the fence under penalty of work stoppages and additional compensatory mitigation. ESAs shall also be permanently marked (with signage or other markers) to ensure that avoided plants are not inadvertently harmed during construction, operation, or closure.

Rationale: Onsite avoidance will not be possible where 100% site grading and surface disruption is necessary to construct and operate the Project.

c. Special-Status Plant Worker Environmental Awareness Program (WEAP). The ~~Plan~~ ***WEAP (BIO-6)***shall include training components specific to protection of special-status plants, ~~and shall be incorporated into the WEAP described in **BIO-6**~~;

d. Herbicide and Soil Stabilizer Drift Control Measures. ~~The Plan shall provide detailed specifications for avoiding herbicide and~~ ***Measures will be specified to avoid*** soil stabilizer drift.~~, and shall include a list of herbicides and soil stabilizers that will be used on the Project with manufacturer's guidance on appropriate use. The Plan shall Indicate where the herbicides~~

~~will be used, and what techniques will be used~~ ***The Weed Control Program (BIO-14) will contain measures*** to avoid chemical drift or residual toxicity to special-status plants, consistent with guidelines provided by ***appropriate organizations and agencies such as the U.S. Environmental Protection Agency,*** the Nature Conservancy's The Global Invasive Species Team <http://www.invasive.org/gist/products.html, ***or the Pesticide Action Network Database (http://www.pesticideinfo.org)***.

e. Erosion and Sediment Control Measures. The Plan shall include measures to ensure that erosion and sediment control measures do not inadvertently impact special-status plants (e.g., by using invasive or non-native plants in seed mixes, introducing pest plants through contaminated seed or straw, etc.). These measures shall be incorporated in the Storm Water Pollution Prevention Plan.

~~f. Avoid Special-Status Plant Occurrences. Designate spoil areas; equipment, vehicle, and materials storage areas; parking; equipment and vehicle maintenance areas, and; wash areas at least 100 feet from any ESAs.~~

Rationale: Already stated in (a)

g. Monitoring and Reporting Requirements. The Designated Botanist shall conduct weekly monitoring of the ESAs ~~that protect special-status plant occurrences~~ during construction ***activities in the vicinity of the ESA***~~, operation,~~ or decommissioning activities ~~within 100 feet of the occurrences, and quarterly monitoring for the remainder of construction~~. ~~The Project owner shall also conduct annual monitoring of the avoided occurrences on-site, and off-site occurrences that are adjacent to the Project, for the life of the Project (see Verification, below).~~

Rationale: The purpose of the ESA is to avoid impacts to special status plants. Once the potential for impacts in the vicinity of the ESA is no longer present, monitoring of the ESA is no longer necessary.

~~h. Seed Collection. Conduct pre-construction collection of seed (or other propagules) of the affected special-status plants within the Project Disturbance Area in the summer-fall season prior to the start of construction and according to the seed collection and storage guidelines contained in (Wall 2009a; Bainbridge 2007). Collection of seed (or other propagules) shall be done by the~~

~~Rancho Santa Ana Botanic Garden (RSABG) Conservation Program staff or other qualified seed or restoration specialist. The Project owner shall be responsible for all costs associated with seed storage All seed storage shall occur at RSABG or other qualified seed dealer and at least 40 percent of the collected seed shall remain in long-term storage at RSABG Seed Conservation Program, San Diego Natural History Museum, or other qualified seed conservation program, and made available for contingency efforts in the event of on-site or off-site mitigation failure.~~

Rationale: *Measure (h) is an alternative to avoidance and has been moved to Section D.*

Section A~~B~~: Conduct Late-Season Botanical Surveys

The Project owner shall conduct late-summer/fall botanical surveys for late-season special-status plants as described below:

1. Survey Timing. Surveys shall be timed to detect~~: a)~~ summer annuals ***and herbaceous perennials*** triggered to germinate by the warm, tropical summer storms (which may occur any time between June and October). ***Surveys will only be otherwise timed to include woody perennials if blooms and seeds are necessary for identification, or the species are summer-deciduous and leaves are necessary for identification.*** ~~and b) fall-blooming perennials that respond to the cooler, later season storms that originate in the Pacific northwest (typically beginning in September or October).~~ The surveys shall not be timed to coincide with the statistical peak bloom period of the target species but shall instead be based on plant phenology and the timing of a significant storm event (i.e., a 10mm or greater rain or storm event ***or multiple storm events of sufficient volume***, as measured at or within 1 mile of the Project site). ~~Surveys for summer annuals shall be timed to occur approximately 4 to 7 weeks following a warm, tropical storm. Re-surveys shall occur as many times as necessary~~ ***Surveys will occur at the appropriate time to capture*** ~~ensure that surveys are conducted during~~ the appropriate identification period for the target taxa, which may be blooms, fruit, seed characteristics, or vegetative characteristics, depending on the taxon.

Rationale – Surveys timed to occur 4-7 weeks after a warm storm are following a statistical peak. Instead, surveys will be timed to optimize identification of summer-blooming species, adjusted as necessary to capture the optimum time, as they have been for the previous surveys.

2. Surveyor Qualifications and Training. Surveys shall be conducted by a qualified botanist knowledgeable in the complex biology of the local flora, and consistent with CDFG protocols (CDFG 2009). The botanical survey crew shall be prepared to mobilize quickly to conduct appropriately timed surveys. Each surveyor shall be equipped with a GPS unit and record a complete tracklog; these data shall be compiled and submitted along with the Summer-Fall Survey Botanical Report (described below). Prior to the start of surveys, all crew members shall, at a minimum, visit reference sites (where available) and/or review herbarium specimens of all BLM Sensitive plants, CNPS List 1B or 2 (Nature Serve rank S1 and S2) or proposed List 1B or 2 taxa ~~(including Coachella Valley milk-vetch)~~, and any new reported or documented taxa, to obtain a search image. Because range extensions are likely to be found, the list of potentially occurring special-status plants shall include all special-status taxa known to occur within the Sonoran Desert region and the eastern portion of the Mojave in California. The list shall also include taxa with bloom seasons that begin in fall and extend into the early spring as many of these are reported to be easier to detect in fall, following the start of the fall rains.

Rationale – Coachella Valley milkvetch is a spring-blooming perennial, not fall, and therefore would not be present during late-season botanical surveys. Coachella Valley milkvetch was not observed during Spring 2009 and 2010 field surveys.

3. Survey Coverage. At a minimum, the Applicant shall conduct comprehensive surveys (i.e., 100 percent visual coverage) of the washes (***as determined by the Jurisdictional Waters Determination [Tetra Tech 2010[3]]***), playa margins, ***and*** dune swales~~, and other lowlands~~ within the Project Disturbance Area and downstream to the playa margin to capture the full extent of the washes that will be affected by diversions into the engineered channel. In the intervening uplands (dry areas), surveys shall be conducted to ensure a 25 percent visual coverage. Other special or unique habitats associated with rare plants (such as dunes, washes, and chenopod scrubs at the playa margin) shall also be surveyed at 100 percent visual coverage. Transects shall be "intuitive controlled" (per Whiteaker et al. 1998) to ensure a focus on habitat most likely to support rare plants (such as desert washes or dunes), rather than on pre-defined, evenly-spaced survey grids. In the one-mile CEC buffer areas (outside the Project Disturbance Area), washes, dunes, and other habitats strongly associated with rare plants shall also be surveyed comprehensively (i.e., 100

[3] Tetra Tech. 2010. Surveys for Jurisdictional Waters and Wetlands at the Genesis Solar Energy Project. January 2010, revised on March 13, 2010 per CDFG.

percent visual coverage) if they will be affected by diversions into the engineered channel but the intervening uplands or habitat not strongly associated with rare plants may be spot-checked or sampled at approximately 10 percent visual coverage.

4. Documenting Occurrences. If a special-status plant is detected, the full extent of the population shall be assessed, both onsite and offsite***, as practical. For commonly occurring species and species that are dense within the population, a reasonable effort shall be made to document that the populations extend well beyond the Project borders, but the full extent of these populations need not be documented. For these species, the part of the population that may be affected by Project activities will be identified.*** The number of individuals shall be counted (or sub-sampled and the population size estimated in the event of large populations). The boundaries of all occurrences shall be recorded with hand-held GPS units of one meter or better accuracy and then plotted on aerial photo base maps of a scale similar to that used in the AFC (GSEP 2009a). All but the smallest populations (e.g., a population occupying less than 100 square feet) shall be recorded as area polygons; small populations may be recorded as point features. All GPS-recorded occurrences shall include: the number of plants, phenology, observed threats (e.g., OHV or invasive exotics), and habitat or community type. The map of occurrences submitted with the progress reports and final botanical report shall be prepared to ensure consistency with mapping protocol and definitions of occurrences in CNDDB: occurrences found within 0.25 miles of another occurrence of the same taxon, and not separated by significant habitat discontinuities, shall be combined into a single 'occurrence'. The Project Owner shall also submit the raw GPS shape files and metadata.

Rationale – It is not practical or biologically warranted to document the extent of plant populations that extend well offsite or are extremely common or densely populated.

5. Reporting. ***Raw GPS data and metadata will be provided to CEC, BLM, and USFWS within two weeks of the end of the survey. If surveys are split into more than one period, then a summary letter will be submitted following each survey period.*** ~~.Progress Reports shall be submitted during surveys (as described below in verification), and shall include: a) the raw GPS data and metadata; b) a spreadsheet of the data (from the 'dbf' file), and c) a map of the data showing occurrence locations (labeled with their corresponding occurrence number from the GPS files) and Project features on a USGS topographic base map.~~

The Final Summer-Fall Botanical Survey Report shall be prepared consistent with CDFG guidelines (CDFG 2009), and BLM guidelines (Lund pers comm) and shall include the following components:

a. the BLM designation, ***CNDDB*** ~~NatureServe~~ Global and State Rank of each species or taxon found (or proposed rank, or CNPS List);

b. the number or percent of the occurrence that will be directly affected, and indirectly affected by changes in drainage patterns or altered geomorphic processes;

c. the habitat or plant community that supports the occurrence and the total acres of that habitat or community type that occurs in the Project Disturbance Area;

d. an indication of whether the occurrence has any local or regional significance (e.g., if it exhibits any unusual morphology, occurs at the periphery of its range in California, represents a significant range extension or disjunct occurrence, or occurs in an atypical habitat or substrate);

e. a completed CNDDB field form for every occurrence, and;

f. two maps: one that depicts the raw GPS data (as collected in the field) on a topographic base map with Project features; and a second map that follows the CNDDB protocol for occurrence mapping, which lumps two or more occurrences of the same species within one-quarter mile or less of each other into one occurrence.

Rationale: ***The surveys will be conducted over 2-3 weeks. Progress reports during the survey are not practical.***

Section B~~C~~: Mitigation Considerations for Special-Status Plants Detected in the Summer/Fall 2010 Surveys

Overall Comment: The Applicant found the majority of Sections C and D confusing. While much thought obviously has been given to the discussions in these sections, the mitigation program, as presented by Staff is too detailed to be implemented. Genesis Solar has attempted to simplify these measures to provide a Project-specific, effective and practical mitigation program that can be implemented.

The standards listed below establish criteria that would trigger implementation of additional mitigation measures for impacts to late summer/fall season special status plant species (if detected during the surveys required under Section B of this Condition). These mitigation measures, described in Section D below, would reduce impacts to any special-status plant species detected during the late summer/fall plant surveys to less than significant levels. ~~These r~~***R***ankings are based on ***CNDDB*** ~~the internationally accepted Natural Heritage Methodology, available online at: http://www.natureserve.org/prodServices/heritagemethodology.jsp Included in this methodology is the NatureServe global and state ranking process (www.natureserve.org/explorer/ranking) which provides an estimate of extinction risk worldwide and in California (Master et al. 2009)~~. Avoidance and Minimization Measures described in Section A of this condition are required for all special-status plants~~., regardless of NatureServe rank or CNPS List.~~

1. ~~Triggers. The following triggers for implementation of mitigation are not intended for use beyond their use in the application of this Condition (Subsection C):~~

    a. ~~Level 1 Trigger. BLM requests 100 percent avoidance for BLM Sensitive species (most G1 or G2 species are BLM Sensitive) but BLM's State Botanist will decide the level of avoidance on a case-by-case basis.~~ ***~~It is recognized that onsite avoidance will not be possible where 100% site grading and surface disruption is necessary to construct and operate the Project.~~*** ~~Any impacts to non-BLM Sensitive species with a NatureServe Global~~ ***~~CNDDB Global~~*** ~~Rank of G1 or G2 will trigger mitigation as described in Section D~~ ***~~Point 1,~~*** ~~below.~~

    b. ~~Level 2 Trigger. Any impact to a taxon with a NatureServe Global Rank~~ ***~~CNDDB Global rank~~*** ~~of G3 or G4 and a CNDDB State Rank of S1 or S2 will trigger mitigation described in Section D~~***~~, Point 2~~***~~, below. Off-site mitigation shall be required as described in Section D,~~ ***~~Point 2~~***~~, below, for impacts to greater than 25 percent of the total population of a G3 or G4 taxa with a state rank of S1 or S2.~~

    c. ~~Level 3 Trigger. If the project would impact more than 30 percent of the total known and documented occurrences of a taxon with a NatureServe Global Rank of G3, G4, or G5 and a CNDDB State Rank of S3, off-site mitigation shall be required, as described in Section D below..~~

Rationale:

- ***CNPS Lists 1 and 2 species, which includes all of those in Triggers 1 and 2, above, but does not include CNPS List 4 species that do warrant CEQA protection, will be mitigated as described in Section D. This does not need to be reiterated here.***

- ***The Level 3 trigger above incorporates all of the CNPS List 4 plants that have been found to be common at the site. The CNPS List 4 plants found on-site do not reach the status of CEQA consideration. List 4 species that might be found during fall surveys will not be considered for special mitigation except as follows in Section C.1.b.***

- ***Staff has not presented a scientific basis for the percentages presented, either for triggers or for mitigation.***

- ***Using multiple ranking systems creates confusion because these ranking systems do not always agree with each other. These discrepancies will make it difficult to effectively implement the mitigation program which is the purpose of this Condition. Because CNDDB has more current global rankings than NatureServe and because it is also embraced by CNPS, the CNDDB ranking system will be used for the purposes of BIO-19.***

1~~Adjustments for Triggers~~ ***Considerations for Increased Protection.***
The levels of protection for a taxon may be adjusted under the following scenarios:

a. State- or Federal-Listed Species. If a state or federal-listed species is detected, the Project owner shall immediately notify the CDFG, USFWS, and the CPM, and comply with all measures contained in this condition as well as the terms and conditions of any applicable federal permit, including avoidance and reconfiguration if required.

b. Local or Regional Significance. CNPS List 4 (typically assigned a State rank of 3) ~~shall be adjusted to~~ ***may receive*** a higher level of protection if the plant occurrence has local or regional significance not captured by ~~the above rankings~~ ***the CNPS listing.*** According to CDFG protocol (CDFG 2009): "List 3 plants may be analyzed under CEQA §15380 if sufficient information is available to assess potential impacts to such plants. Factors such as regional rarity vs. statewide rarity shall be considered in determining whether cumulative impacts to a List 4 plant are significant even if individual project impacts are not. CNPS List 3 and 4 may be considered regionally significant if, e.g., the occurrence is located at the periphery of

the species' range, or exhibits unusual morphology, or occurs in an unusual habitat/substrate."

~~A plant occurrence of any rank may be assigned a five percent higher level of protection in its ranking~~ ***Examples may include*** if the plant occurrence exhibits one or more of the following features:

i. occurs at the outermost periphery of its range in California;

ii. represents a significant range extension or disjunct occurrence (e.g., is located outside of the 9-quad region centered on the nearest known occurrence) ***that is not likely solely the result of a lack of surveys***;

iii. is in an atypical habitat, region, or elevation for the taxon that suggests that the occurrence may have genetic significance (e.g., that may increase its ability to survive future threats), or;

iv. exhibits any unusual morphology that is not clearly attributable to environmental factors that may indicate a potential new variety or sub-species.

Rationale: ***Staff has not presented a scientific basis for the percentages presented, either for triggers or for mitigation.***

c. ~~Significant Cumulative Effects. The assessment of known threats from over 50 sources are considered and reflected in the CNDDB threat rank, including renewable energy (see http://www.natureserve.org/publications/ConsStatusAssess_StatusFactors.pdf , "Threats").~~,

Rationale: ***Point (c) is unclear***

d. ~~Ownership/Management Threats. The degree to which a taxon's occurrences are adequately protected and managed is not included in the set of core factors used for NatureServe rankings that pre-date the 2009 revised protocols (Master et al. 2009). The threats to special-status plants with many occurrences on private lands without conservation easements, or on BLM lands managed for multiple uses (outside of a DWMA), will be captured in the new rankings available in summer 2010.~~

Rationale:. Species that are largely on private lands already generally have a higher CNPS listing or sensitivity ranking

than other species. A new threats analysis for each species, based on these factors, is not warranted.

e. New, Un-Described Taxa and Other Occurrences of Questionable Taxonomic Status. ~~BLM will treat new un-described taxa as if they are BLM Sensitive, and requests 100 percent avoidance, but BLM's State~~ ***The Designated*** Botanist, ***will consult with CEC and CDFG if a new, un-described taxa is found. Together they*** will decide the level of avoidance on a case-by-case basis. ***It is recognized that onsite avoidance will not be possible where 100% site grading and surface disruption is necessary to construct and operate the Project, or on any area that has been cleared during construction.*** Proposed additions to the CNPS Inventory, including any new un-described taxa that are proposed additions to the CNPS Inventory, will be treated as Proposed unless rejected by the CNPS Rare Plant Botanist after the initial literature review and consultation with the network of botanists, representing state and federal agencies, consulting firms, and academic institutions. A description of the peer review process is available at: http://www.cnps.org/cnps/rareplants/. Typically, under ~~NatureServe and~~ CNPS ranking protocol, plants with a questionable taxonomy are assigned a lower conservation priority with the caveat that resolution of this uncertainty may result in a status change that may be lower or higher than originally assigned.

~~2.~~ ~~Basis for Assessing Total Documented Occurrences. The accounting or inventory of the species' total known or documented occurrences shall be based on the following sources: CNDDB processed and unprocessed data; California Consortium of Herbaria and other herbaria records; BLM records; survey data from other renewable energy projects and other related projects for which survey data ***are*** is available; and reported occurrences by qualified botanists accompanied by a completed CNDDB or similar field form (with or without voucher specimens). ***Because the geographic range and habitat of all species have not been surveyed, d***~~Data ***additionally*** ~~considered ***useful in the analysis will*** unreliable include: range implied in literature but without collection numbers or specific location information and anecdotal reports ***from species experts or knowledgeable botanists, even*** without documentation ***(although there must be sufficient information that documentation could be constructed).***~~,or from ~~non-credible sources. Occurrences based on historic (pre-CEQA, or pre-1972) collections that have not since been verified will not be~~

~~considered unless verified and documented by one of the sources described above.~~

Rationale: Because Genesis deleted the triggers listed in Section C.1.a-c, above, in favor of a more practical and concise condition that can achieve protection of special-status species, the basis for documenting total known occurrences, which was part of the triggers, is also deleted.

Section D: Mitigation Measures for Special-Status Plants

Special-Status Plant Mitigation ***Measures*** ~~Plan~~. Upon completion of the summer-fall 2010 surveys, (see Section B of this Condition), the Project owner shall ~~prepare a Special-Status Plant Mitigation Plan~~ ***augment the BRMIMP with*** ~~that includes~~ all of the mitigation requirements described ~~in the special-status plant impact analysis of this Revised Staff Assessment (see Section C.2.4.2)~~ ***below*** for: Harwood's eriastrum; Harwood's milk-vetch; ~~desert unicorn plant, and ribbed cryptantha~~. The Plan shall also include the mitigation requirements for any additional special-status plants found during the summer-fall 2010 surveys (see Sections B and C of this Condition) in accordance with the mitigation ~~triggers~~ ***considerations*** described above (Section C of this condition) and that meet the performance standards specified below. Avoidance and Minimization Measures described in Section A of this condition are required for all special-status plants, ~~regardless of NatureServe rank or CNPS List~~.

Rationale: Both ribbed cryptantha and desert unicorn plant were extremely common on the Project surveys and in other regional project surveys; Staff recognized this for ribbed cryptantha in their background discussion. These species are ranked CNPS List 4 and do not meet the criteria for "special-status plant species" under CEQA; special-status mitigation is not warranted.

1. On-Site Avoidance. ***It is recognized that onsite avoidance will not be possible where 100% site grading and surface disruption is necessary to construct and operate the Project, or on any area that has been cleared during construction. Where feasible, within the constraints of construction, disturbance to special-status species will be minimized***. ~~BLM requests 100 percent avoidance for BLM Sensitive species but BLM's State Botanist will decide the level of avoidance on a case-by-case basis~~. On-site avoidance ***of*** ~~shall also be required if the impact to a special-status species with a NatureServe~~ ***plants with a CNDDB*** Global Rank of G1 or G2 ***will be 100% if the locations occur outside of areas that must be bladed or disturbed for***

Project construction and for which avoidance can be achieved. If avoidance cannot be achieved, off-site mitigation will be implemented per Point 2, below. ~~exceeds 10 percent of the species' known and documented occurrences (see 'Level 1 Trigger', Section C of this Condition). Under this scenario, the Project owner shall be required to avoid a minimum of 75 percent of the total population. For perennial taxa the percent avoidance shall be measured based on the percentage of the total individuals affected; for annuals the percent avoidance shall be measured based on the total area occupied by the occurrence plus any additional habitat deemed essential for maintaining healthy, reproductive populations (BLM CDD 2002).~~ The Project owner shall implement all measures described in Section A of this Condition to protect the avoided occurrence from accidental direct and indirect effects during construction, operation, and closure.

***Rationale**: No listed species occur on the Project and the special-status designation of Harwood's milkvetch is questionable given the much increased database of observations since 2005. There are no BLM Sensitive species and only one G2 species, Harwood's eriastrum, was potentially identified (post- flowering) well west of the Project Area. It was not found on appropriate habitat on the Project Area and is assumed to be absent from the Project Area. The occurrence of fall-blooming special-status species remains unclear, but none of the target species have a G1 or G2 or CNPS List 1 or 2 ranking. It is recognized that other species could be found during summer/fall surveys.*

2. Off-Site Compensatory Mitigation. ***Compensatory mitigation acreage will be calculated based on occurrences documented during 2009/2010 field surveys.*** One or more of the following options for mitigation may be used to reduce ~~Level~~ ***1 and*** ~~2 and Level 3~~ impacts to ***CNPS List 1 and 2*** special-status ***plants or species observed in Fall 2010 surveys that, while only CNPS List 3 or 4, may be subject to CEQA consideration*** (see Section C of this Condition) to less than significant levels:

    a. Acquire Off-Site Compensatory Land. To fully mitigate for the loss of special-status plants, the Project owner shall provide compensatory mitigation by acquiring, in fee title or conservation easement, lands meeting the specific criteria outlined in D-3 below, and in an amount equal to the amount of occupied special-status plant habitat disturbed by the final Project footprint. The Project footprint means all lands disturbed in the construction and operation of the Project, including all Project linears. To satisfy this condition, the Project owner shall also provide associated funding for the acquired lands, as specified

in **BIO-12** Section A. ***The Project owner shall acquire and transfer fee title to the compensation lands, a conservation easement over the lands, or both fee title and conservation easement, as required by the CPM in consultation with CDFG. Any transfer of a conservation easement or fee title must be to CDFG, a non-profit organization qualified to hold title to and manage compensation lands (pursuant to California Government Code section 65965), or to BLM or other public agency approved by the CPM in consultation with CDFG. If an approved non-profit organization holds fee title to the compensation lands, a conservation easement shall be recorded in favor of CDFG or another entity approved by the CPM. If an entity other than CDFG holds a conservation easement over the compensation lands, the CPM may require that CDFG or another entity approved by the CPM, in consultation with CDFG, be named a third party beneficiary of the conservation easement. The Project owner shall obtain approval of the CPM, in consultation with CDFG, of the terms of any transfer of fee title or conservation easement to the compensation lands***.

Initial Protection and Habitat Improvement. The Project owner shall fund activities that the CPM, in consultation with the CDFG, USFWS and BLM, requires for the initial protection and habitat improvement of the compensation lands. These activities will vary depending on the condition and location of the land acquired, but may include trash removal, construction and repair of fences, invasive plant removal, and similar measures to protect habitat and improve habitat quality on the compensation lands.

b. Habitat Enhancement. Implement a Habitat Enhancement Project for the rescue of an off-site occurrence that is currently assessed with a long-term decline, with an immediate threat, or an overall threat impact that is High to Very High (see NatureServe Threat Ranking system, at http://www.natureserve.org/publications/ConsStatusAssess_StatusFactors.pdf , “Threats”).

c. Third Party. The responsibilities for implementation of an approved Habitat Enhancement Plan may be delegated by written agreement of the Energy Commission in consultation to the NFWF or other qualified land trust or public resource agency responsible for managing lands containing the site of the enhancement project. The Project owner shall deposit into the NFWF account an amount equivalent to the cost of implementing the enhancement project, subject to approval by

the CPM. This Habitat Enhancement option may be implemented on public lands protected under a designation that assures management for the benefit of species and the enhancement lands, or on private lands protected in perpetuity under a conservation easement.

3. Criteria for Compensatory Acquisition Lands. If this option is selected to meet the mitigation obligations, the Project owner shall acquire, in fee title or conservation easement, lands that meet the criteria below. The responsibilities for acquisition and management of the compensation lands may be delegated by written agreement to a qualified third party, such as a non-governmental organization dedicated to habitat conservation. Additional funds shall be provided for basic long-term stewardship of the conservation easement. At a minimum, long-term management shall consist of the activities described in Land Trust Standards and Practices (Land Trust Alliance 2004, Practice 12A) http://www.landtrustalliance.org/learning/sp/land-trust-standards-and-practices for start-up and annual management activities, including preparation of a long-term management and monitoring plan. The amount of the long-term management and maintenance fund shall be based on PAR or PAR-like analysis. The terms and conditions for acquisition shall be as described in **BIO-12**. The acquisition lands must be within California, and must meet one or more of the following additional requirements:

   a. Occupied and with good to excellent site integrity. Contains an occurrence of the target special-status plant. The occurrence may be smaller than the affected occurrence but must be a viable reproducing occurrence, stable or increasing (in size and reproduction), with ***equal to or*** ~~good or~~ better habitat quality than the affected occurrence, and with a reasonable expectation of long-term sustainability. The amount of land to be acquired shall be equivalent to the total acres of the affected occupied habitat mitigated at a ratio of ***1:1*** ~~3:1~~ (~~3~~ ***1*** acre~~s~~ acquired for every one acre of occupied habitat affected).

   Rationale: There are no listed species. Mitigation of 1:1 is reasonable to replace lost habitat and partial loss of or disturbance to populations.

   b. Occupied but with threats to habitat quality and accompanied by an approved restoration plan. The occurrence or the site may contain threats to its integrity as long as the population or the site can be reasonably expected to recover with minor restoration (e.g., barricading ORV, excluding grazing, or minor pest plant removal) and is accompanied by a restoration plan

that meets the minimum standards described in **D-5** below. The amount of land to be acquired shall be equivalent to the total acres of affected occupied habitat mitigated at a ratio of ~~3:1 (3~~ ***2:1 (2*** acres acquired for every one acre of occupied habitat affected), with the additional expense of preparing and implementing an approved habitat restoration plan, including long-term monitoring. The restoration plan shall be prepared in accordance with all guidelines described below.

c. Unoccupied but adjacent to occupied habitat. The acquired habitat may be unoccupied but it improves the defensibility and long-term sustainability of the occupied habitat by expanding the buffer of protection around the occurrence so as to prevent future development of adjacent habitat and protect its connectivity to undisturbed habitat. Buffer lands may or may not be dominated by the same habitats that support the special-status plants ~~but must provide some habitat continuity between the occupied habitat and undisturbed habitats of a high integrity beyond the buffer lands.~~ Habitat integrity, connectivity, defensibility, and potential threats shall also be addressed in the proposal. ***If buffer lands have no habitat that could be occupied or provide connectivity between occupied habitats, and merely serve as buffers to encroachment, then the amount of land to be acquired shall be equivalent to the total acres of affected occupied habitat mitigated at a ratio of 3:1 (3 acres acquired for every one acre of occupied habitat affected). If buffer lands have habitat that could be occupied, then the*** ~~The~~ amount of land to be acquired shall be equivalent to the total acres of affected occupied habitat mitigated at a ratio of ~~4:1 (4~~ ***2:1 (2*** acres acquired for every one acre of occupied habitat affected).

d. Unoccupied and not adjacent to occupied habitat. Must contain high-quality habitat that is critical to the maintenance or sustainability of the affected species and represent a potential reserve in the future (for either natural colonization or artificial). Good to high quality dune or playa margin habitat, sandy washes, or sand fields within Chuckwalla Valley, would be an example of acquisition not adjacent and not currently occupied but may be an important site for natural or artificial establishment of Harwood's milk-vetch and other rare plants of dune and sandy habitats in Chuckwalla Valley. Acquired lands may also focus on linkages for species dispersal between major populations and refugia at higher elevations/more mesic habitats to accomodate species migration with future climate change. Habitat integrity, connectivity, defensibility, and potential threats shall also be addressed in the proposal. The

amount of land to be acquired shall be equivalent to the total acres of affected occupied habitat mitigated at a ratio of ***3:1*** ~~5:1~~ (~~5~~ acres acquired for every one acre of occupied habitat affected).

Rationale: ***Because there are no listed species at the Project, compensation ratios above 3:1 are unwarranted.***

If all or any portion of the acquired Desert Tortoise, Mojave Fringe-toed Lizard, Dunes, Waters of the State or other required compensation lands meets the criteria above for special-status plant compensation lands, the portion of the other species' or habitat compensation lands that meets any of the criteria above may be used to fulfill that portion of the obligation for special-status plant mitigation.

4. Habitat Enhancement. As an alternative to acquisition, and subject to approval by the CPM, the Project owner may prepare and implement a Habitat Enhancement Plan that meets the following performance standards:

   a. The proposed habitat enhancement project must achieve the rescue of an off-site occurrence that is currently assessed with: a long-term decline >30%, or; an immediate threat that affects >30% of the population, or; has an overall threat impact that is High to Very High (see NatureServe Threat Ranking system, at: http://www.natureserve.org/publications/ConsStatusAssess_StatusFactors.pdf , "Threats").

   b. The proposed enhancement must achieve an improvement in the occurrence trend to "stable" or "increasing" status, or downgrading of the overall threat rank to slight or low (from "High" to "Very High").

   c. Enhancement projects may include one or more of the following types of projects: i) control unauthorized vehicle use into an occurrence (or pedestrian use if clearly damaging to the species); ii) control noxious weeds that infest or pose an immediate threat to an occurrence; iii) exclude grazing by wild burros or livestock from an occurrence; or iv) restore lost or degraded hydrologic or geomorphic functions critical to the species by restoring previously diverted flows, removing obstructions to the wind sand transport corridor above an occurrence, or increasing groundwater availability for dependent species.

   d. Other types of enhancement projects may be considered if they meet the performance standard described above. The Project

owner may elect to implement the enhancement, subject to approval by the CPM. Any enhancement mitigation proposal shall be accompanied by a detailed habitat restoration and/or enhancement plan prepared in accordance with the guidelines below.

e. In the event of failure to achieve the restoration or enhancement goals by the end of monitoring, the Project owner shall pay an amount equal to the cost of acquiring an equal number of acres of affected habitat, at a mitigation ratio ***commensurate with Point 3, above*** ~~of 3:1~~***. If an approved third party fails to meet the Habitat Enhancement goals by the end of monitoring, then the Project owner is under no obligation to continue with the program.*** The Habitat Enhancement Plan, subject to approval by the CPM, shall be prepared in accordance with all guidelines contained below **D-5**.

5. Guidelines for the Preparation of Habitat Enhancement/Restoration Plans. If the Habitat Enhancement option is selected (according to the criteria under **D-4**, above), the Project owner shall submit a detailed Habitat Enhancement or Restoration Plan that includes all of the following components and according to the guidelines in (a) through (j) below:

   a. Define the goals of the restoration or enhancement project and a measurable course of action developed to achieve those goals. The goals and objectives must meet the performance standard described in **D-4**, above;

   b. Estimate the pre-impact or historical conditions (before the site was degraded by weeds or grazing or ORV, etc.), and the desired conditions;

   c. Describe other site characteristics relevant to the restoration or enhancement project (e.g., composition of native and pest plants, topography and drainage patterns, soil types, geomorphic and hydrologic processes important to the site or species;

   d. Describe other important ecological factors of the species being protected, restored, or enhanced such as total population, reproduction, distribution, pollinators, etc.;

   e. Describe the restoration methods that will be used (e.g., invasive exotics control, site protection, seedling protection, propagation techniques, etc.) and the long-term maintenance required. The implementation phase of the enhancement must be completed within five years;

f. Provide a detailed budget and time-line, develop clear, measurable, objective-driven annual success criteria;

g. Develop clear, measurable monitoring methods that can be used to evaluate the effectiveness of the restoration and the benefit to the affected species. The Plan shall include a minimum of five years of quarterly monitoring and annual monitoring***, or another specified time period of monitoring***, ***based on the objectives of the habitat enhancement program, which are currently undefined.*** ~~for the remainder of the life of the Project~~. At a minimum the progress reports shall include: quantitative measurements of the projects progress in meeting the enhancement project success criteria, detailed description of remedial actions taken or proposed, and contact information for the responsible parties.

h. Ensure accountability with a reporting program that includes progress toward goals and success criteria. Include names of responsible parties.

i. Describe the contingency plan for failure to meet annual goals.

j. Include proof of long-term protection for the restoration site. For private lands this would include conservations easements or other deed restrictions; projects on public lands must be contained in a DWMA, WHMA, or other land use protections that will protect the mitigation site and target species.

Mitigation Security. The Project owner shall provide financial assurances to the CPM, to guarantee that an adequate level of funding is available to implement the mitigation measures described above. These funds shall be used solely for implementation of the measures associated with the Project in the event the Project owner fails to comply with the requirements specified in this condition. The CPM's use of the security to implement measures in this condition may not fully satisfy the Project owner's obligations under this condition. Financial assurance can be provided to the CPM in the form of an irrevocable letter of credit, a pledged savings account, or another form of security ("Security") prior to initiating ground-disturbing Project activities. Prior to submittal to the CPM, the Security shall be approved by the CPM, in consultation with BLM, to ensure funding. The amount of the security shall be determined according to the mitigation ratios described in **D-3** (a) through (d) and **D-4** of this condition. The amount of security shall be adjusted for any change in the Project footprint as described above.

6. Alternative to Acquiring Off-site Compensatory Land:

The following alternatives are proposed:

a. In lieu of acquiring lands or undertaking the habitat enhancements itself~~:, t~~***T***he Project owner may satisfy the requirements of this condition by depositing funds into the Renewable Energy Action Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF), as described in Section A.3(i) in Condition of Certification **BIO-12**. Condition of Certification **BIO-29** may provide the Project owner with another option for satisfying some or all of the requirements in this condition.

The responsibility for acquisition of compensation lands may be delegated to a third party other than NFWF, such as a qualified land trust or other non-governmental organization supportive of habitat conservation, by written agreement of the Energy Commission. Such delegation shall be subject to approval by the CPM in consultation with BLM prior to land acquisition, enhancement, or management activities.

OR

b. In lieu of acquiring lands or undertaking the habitat enhancements itself, the Project owner may conduct pre-construction collection of seed (or other propagules) of the affected special-status plants within the Project Disturbance Area in the summer-fall season prior to the start of construction and according to the seed collection and storage guidelines contained in (Wall 2009a; Bainbridge 2007). Collection of seed (or other propagules) shall be done by the Rancho Santa Ana Botanic Garden (RSABG) Conservation Program staff or other qualified seed or restoration specialist. The Project owner shall be responsible for all costs associated with seed storage All seed storage shall occur at RSABG or other qualified seed dealer and at least 40 percent of the collected seed shall remain in long-term storage at RSABG Seed Conservation Program, San Diego Natural History Museum, or other qualified seed conservation program, and made available for contingency efforts in the event of on-site or off-site mitigation failure.

Verification: ~~Progress~~ ***reports A preliminary summary of results*** for the late summer/fall botanical surveys shall be submitted to the CPM ~~and BLM's State Botanist on September 30, 2010 and October 30,~~ ***2010 within one week of the end of surveys***. ***If surveys are split into more than one period, then a summary letter will be submitted following each survey period***. The Final

Summer-Fall Botanical Survey Report, GIS shape files and metadata shall be submitted to the ~~BLM State Botanist and the~~ CPM no less than 30 days prior to the start of ground-disturbing activities.

No less than 30 days prior to the start of ground-disturbing activities the Project owner shall submit grading plans and construction drawings depicting the location of Environmentally Sensitive Areas and the Avoidance and Minimization Measures contained in Section A of this Condition. ***All special-status plant protection measures will be incorporated into the draft BRMIMP***.

~~No less than 30 days prior to ground-disturbing activities the Project owner shall submit to the CPM for review and approval, in consultation with the BLM State Botanist, a draft Special-Status Plant Mitigation Plan. If state or federal listed plants are potentially affected, the Project owner shall also submit the Special-Status Plant Mitigation Plan to CDFG and USFWS. The Plan shall contain, at a minimum, a conceptual proposal for compensatory mitigation through acquisition or restoration (habitat enhancement), or both. If the habitat enhancement option is selected, the Project owner shall also submit a conceptual Habitat Enhancement Plan that includes all of the components described in Section D-5 of this condition. If avoidance is mandatory (in accordance with Section C-1 and D-1 of this condition) the draft Plan shall include grading plans and other relevant construction drawings clearly depicting the location of the avoided plants.~~

Rationale: The protection measures will be part of the BRMIMP and will not be a separate plan.

Within 90 days after completion of Project construction, the Project owner shall provide to the CPM an analysis with the final accounting, based on GIS analysis of post-construction aerial photography, of the amount of special-status plants and their habitat disturbed during Project construction. This shall be the basis for the final number of acres of habitat required for acquisition, as described in Section C.

The Project owner may elect to fund the acquisition and initial improvement of compensation lands through NFWF by depositing funds for that purpose into NFWF's REAT Account Payment of the initial funds for acquisition and initial improvement must be made at least 30 days prior to the start of ground-disturbing activities.

No fewer than 90 days prior to acquisition of the property, the Project owner shall submit a formal acquisition proposal to the CPM ***and*** CDFG~~, USFWS, and BLM~~ describing the parcels intended for purchase and shall obtain approval from the CPM and CDFG prior to the acquisition. The PAR Analysis shall be completed no later than 18 months of the start of ground-disturbing activities, after which the amount will be adjusted.

If habitat enhancement is proposed, the final Habitat Enhancement Plan, prepared in accordance with Section D-5 shall be submitted to the CPM for review and approval no later than six months following the start of ground-disturbing activities. ~~If acquisition is proposed, the Project owner shall submit to the CPM for review and approval, in consultation with the BLM State Botanist, a final Special-Status Plant Mitigation Plan for proposed acquisition lands no later than 18 months from the start of ground-disturbing activities~~.

Habitat Enhancement (if selected) shall be initiated no later than 12 months from the start of construction. The implementation phase of the enhancement project shall be completed within five years of initiation. Until completion of the five-year implementation portion of the enhancement action, a report shall be prepared and submitted as part of the Annual Compliance Report. This report shall provide, at a minimum: a summary of activities for the preceding year and a summary of activities for the following year; quantitative measurements of the Project's progress in meeting the enhancement project success criteria; detailed description of remedial actions taken or proposed; and contact information for the responsible parties.

Implementation of the special-status plant impact avoidance and minimization measures shall be reported in the Monthly Compliance Reports prepared by the Designated Botanist. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM, for review and approval ~~in consultation with the BLM State Botanist~~, a written construction termination report identifying how measures have been completed.

The Project owner shall submit a monitoring report every year for the life of the project to monitor effectiveness of protection measures for all avoided special-status plants to the CPM ~~and BLM State Botanist~~. The monitoring report shall include: dates of worker awareness training sessions and attendees, an inventory of the special-status plant occurrences and description of the habitat conditions, an indication of population and habitat quality trends, and description of the remedial action, if warranted and planned for the upcoming year.

CONDITION OF CERTIFICATION BIO-20

Genesis does not believe Staff's conclusion that the GSEP will have indirect impacts to sand transport that would then effect Mojave Fringe Toed Lizard habitat downwind of the GSEP. First, Genesis has removed that portion of the solar field (the "toe") on the easternmost portion of the project boundary. Second, the prevailing sand transport and wind directions do not support Staff's conclusions and its theoretical wind shadow. To accept Staff's conclusion one would have to believe that the Project fence and mirror fields would essentially block all wind from the west. Staff's analysis appears to assume that the part of the Project that extends into the wind shadow is a solid block. Staff also assumes that sand will no longer be entrained by the wind. Contrary to how sand is actually transported in the project vicinity, the prevailing wind directions

(from the north and west) will to a large extent combine to move sand around the fence even if it temporarily accumulates. Therefore, the Condition of Certification has been modified to remove mitigation for these non-existent indirect effects.

BIO-20 The Project owner shall mitigate for direct and indirect impacts to stabilized and partially stabilized sand dunes and other Mojave fringe-toed lizard habitat by acquisition of ~~190~~ ***114*** acres of Mojave fringe-toed lizard habitat. The Project owner shall provide funding for the acquisition, initial habitat improvements and long-term management of the compensation lands. The 190-acre acquisition requirement, and associated funding requirements based on that acreage, will be adjusted if there are changes in the final footprint of the Project. In lieu of acquiring lands itself, the Project owner may satisfy the requirements of this condition by depositing funds into the Renewable Energy Action Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF), as described in Section 3.i. of Condition of Certification **BIO-12.** Condition of Certification **BIO-29** may provide the Project owner with another option for satisfying some or all of the requirements in this condition.

The requirements for acquisition, initial improvement and long-term management of compensation lands include all of the following:

1. Criteria for Compensation Lands: The compensation lands selected for acquisition shall:
    a. Provide suitable habitat for Mojave fringe-toed lizards ***that is equal to or better than that found in the Project disturbance area***, and may include stabilized and partially stabilized desert dunes or sand drifts over playas or Sonoran creosote bush scrub;

    b. Be within the Chuckwalla Valley with potential to contribute to Mojave fringe-toed lizard habitat connectivity and build linkages between known populations of Mojave fringe-toed lizards and preserve lands with suitable habitat;

    c. Be connected to lands that are either currently occupied or have high potential to be occupied by Mojave fringe-toed lizard based on patch size and habitat quality;

    d. Be near larger blocks of lands that are either already protected or planned for protection, or which could feasibly be protected long-term by a public resource agency or a non-governmental organization dedicated to habitat preservation;

e. Not have a history of intensive recreational use or other disturbance that might make habitat recovery and restoration infeasible;

f. Not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration;

g. Not contain hazardous wastes;

h. Not be subject to property constraints (i.e. mineral leases, cultural resources); and

i. Be on land for which long-term management is feasible.

2. Security for Implementation of Mitigation: The Project owner shall provide financial assurances to the CPM to guarantee that an adequate level of funding is available to implement the acquisitions and enhancement of Mojave fringe-toed lizard habitat as described in this condition. These funds shall be used solely for implementation of the measures associated with the Project. Financial assurance can be provided to the CPM in the form of an irrevocable letter of credit, a pledged savings account or Security prior to initiating ground-disturbing project activities. The Security shall be approved by the CPM, in consultation with CDFG and the USFWS, to ensure sufficient funding. As of the publication of the RSA, this amount is $433,200. This amount may change based on land costs or the estimated costs of enhancement and endowment (see subsection C.2.4.2, Desert Tortoise, for a discussion of the assumptions used in calculating the Security, which are based on an estimate of $1,450 per acre to fund acquisition, enhancement and long-term management).

Compensation Land Management/Enhancement ~~Preparation of Management Plan~~: The Project owner shall submit to the CPM, CDFG and USFWS ~~a draft Management Plan that reflects~~ site-specific enhancement measures for the Mojave fringe-toed lizard habitat on the acquired compensation lands. The objective ~~of the Management Plan~~ shall be to enhance the value of the compensation lands for Mojave fringe-toed lizards, and may include enhancement actions such as weed control, fencing to exclude livestock, erosion control, or protection of sand sources or sand transport corridors. ~~A final Management Plan~~ ***These measures***, approved by the CPM, shall be incorporated into the BRMIMP.

CONDITION OF CERTIFICATION BIO-21

***Comment:** The Applicant requests that a variety of deterrent methods, including but not limited to netting, be considered in this Condition of Certification to allow for flexibility.*

BIO-21 The Project owner shall ***investigate feasible and effective technologies*** ~~cover the evaporation ponds prior to any discharge with 1.5-inch mesh netting~~ designed to exclude birds and other wildlife from drinking or landing on the water of the ponds. ~~Netting with mesh sizes other than 1.5-inches may be installed if approved by the CPM in consultation with CDFG and USFWS.~~ The ~~netted~~ ponds shall be monitored regularly to verify that the ***technology*** ~~netting remains intact,~~ is fulfilling its function in excluding birds and other wildlife from the ponds***. The effectiveness of each technology shall be monitored and analyzed. An Adaptive Management program will be implemented to ensure that the optimal exclusion technologies are implemented.*** ~~and does not pose an entanglement threat to birds and other wildlife. The ponds shall include a visual deterrent in addition to the netting, and the pond shall be designed such that the netting shall never contact the water~~. Monitoring of the evaporation ponds shall include the following:

1. Monthly Monitoring. The Designated Biologist or Biological Monitor shall regularly survey the ponds at least once per month starting with the first month of operation of the evaporation ponds. The purpose of the surveys shall be to determine if the ~~netted ponds~~ ***selected technology is*** ~~are e~~ffective in excluding birds ***and wildlife.*** ~~, if the nets pose an entrapment hazard to birds and wildlife, and to assess the structural integrity of the nets.~~ The monthly survey shall be conducted in one day for a minimum of two hours following sunrise (i.e., dawn), a minimum of one hour mid-day (i.e., 1100 to 1300), and a minimum of two hours preceding sunset (i.e., dusk) in order to provide an accurate assessment of bird and wildlife use of the ponds during all seasons. Surveyors shall be experienced with bird identification and survey techniques. Operations staff at the Project site shall also report finding any dead birds or other wildlife at the evaporation ponds to the Designated Biologist within one day of the detection of the carcass. The Designated Biologists shall report any bird or other wildlife deaths ~~or entanglements~~ within two days of the discovery to the CPM, CDFG, and USFWS.

2. Dead ~~or Entangled~~ Birds. If dead or entangled birds are detected, the Designated Biologist shall take immediate action ***to assess the situation and*** to correct the source of mortality ~~or entanglement~~, ***if appropriate***. The Designated Biologist shall

make immediate efforts to contact and consult the CPM, CDFG, and USFWS by phone and electronic communications prior to taking remedial action upon detection of the problem, but the inability to reach these parties shall not delay taking action that would, in the judgment of the Designated Biologist, prevent further mortality of birds or other wildlife at the evaporation ponds.

3. Quarterly Monitoring. If after 12 consecutive monthly site visits no bird or wildlife deaths ~~or entanglements~~ are detected at the evaporation ponds by or reported to the Designated Biologist, monitoring, as described in paragraph 1, can be conducted on a quarterly basis.

4. Biannual Monitoring. If after 12 consecutive quarterly site visits no bird or wildlife deaths ~~or entanglements~~ are detected by or reported to the Designated Biologist and with approval from the CPM, USFWS and CDFG, future surveys may be reduced to two surveys per years, during the spring nesting season and during fall migration. If approved by the CPM, USFWS and CDFG, monitoring outside the nesting season may be conducted by the Environmental Compliance Manager.

5. Modification of Monitoring Program. CDFG or USFWS may submit a request for modifications to the evaporation pond monitoring program based on information acquired during monitoring, and may also suggest adaptive management measures to remedy any problems that are detected during monitoring or modifications if bird impacts are not observed. Modifications to the evaporation pond monitoring described above and implementation of adaptive management measures shall be made only after approval from the CPM, in consultation with USFWS and CDFG.

***Rationale:* The suggested changes are consistent with language presented by CEC Staff's Condition of Certification regarding evaporation ponds for Abengoa Solar's Mojave Solar Project. The changes to this condition reflect flexibility in protection measures for birds in light of maintaining evaporative functioning of the ponds.**

Verification: No less than 30 days prior to operation of the evaporation ponds the project owner shall provide to the CPM as-built drawings and photographs of the ponds indicating that the ***selected technology*** ~~bird exclusion netting~~ has been installed. For the first year of operation the Designated Biologist shall submit quarterly reports to the CPM, CDFG, and USFWS describing the dates, durations and results of site visits conducted at the evaporation ponds. Thereafter the Designated Biologist shall submit annual monitoring reports with

this information. The quarterly and annual reports shall fully describe any bird or wildlife death ~~or entanglements~~ detected during the site visits or at any other time, and shall describe actions taken to remedy these problems. The annual report shall be submitted to the CPM, CDFG, and USFWS no later than January 31st of every year for the life of the project. ***All reports will compare the relative success of each of the exclusion technologies being implemented, and will provide adaptive management suggestions to optimize the overall success of avian and wildlife protection at the evaporation ponds.***

The Project owner shall submit proposed exclusion technologies for the evaporation ponds to the CPM, USFWS, and CDFG for approval at least 60 days prior to construction-related ground disturbance activities. A final, approved exclusion technology design and monitoring plan will be submitted to the CPM, USFWS and CDFG 30 days prior to construction-related ground disturbance activities.

CONDITION OF CERTIFICATION BIO-24

BIO-23 Upon Project closure the Project owner shall implement a final Decommissioning and Reclamation Plan for the Project site. The Decommissioning and Reclamation Plan shall include a cost estimate for implementing the proposed decommissioning and reclamation activities.~~, and shall be consistent with the guidelines in BLM's 43 CFR 3809.550 et seq., subject to review and revisions from the BLM in consultation with USFWS and CDFG.~~ The Project owner shall finalize the plan only after approval ~~from the CPM, in consultation with~~ BLM, ~~USFWS, and CDFG~~. Throughout the life of the Project the Project owner plan shall regularly submit the plan to the ~~CPM~~ ***BLM*** for review and updating, if warranted, as described in Verification below. Modifications to the final Decommissioning and Closure Plan shall be made only after approval from ~~the CPM, in consultation with~~ BLM~~, USFWS, and CDFG.~~

Verification: No less than 30 days prior to initiating construction-related ground disturbance activities, the Project owner shall provide to BLM ~~and the CPM~~ a draft Decommissioning and Closure Plan. The plan shall be finalized prior to the start of commercial operation and reviewed every five years thereafter and submitted to the ***BLM*** ~~CPM~~ for approval~~, in consultation with BLM~~. Modifications to the approved Decommissioning and Closure Plan shall be made only after approval from ~~the CPM, in consultation with~~ BLM~~, USFWS, and CDFG~~. ***The Project Owner shall provide a copy of the approved Decommissioning and Reclamation Plan and any BLM approved revisions to the CPM.***

~~No less than 10 days prior to initiating construction-related ground disturbance activities the Project owner shall provide financial assurances to the CPM to guarantee that an adequate level of funding would be available to implement measures described in the Decommissioning and Closure Plan, consistent with the provisions set forth in 43 C.F.R. sections 2805.12 and 3809.500-.599~~.

Rationale: ***This condition requires a Decommissioning and Reclamation Plan. Genesis agrees that such a plan is required by federal regulations but does not believe that it can prepare a plan now to restore the site to natural conditions. The full disturbance area will have been mitigated by the Conditions of Certification and therefore the only requirement for such a plan is BLM administering regulations. The ultimate decision of what land use to which the site should be reclaimed lies with BLM and not the Commission. Genesis recommends this condition be deleted entirely from the Commission Decision as it is not necessary to mitigate any significant environmental impact nor is it necessary to comply with any LORS over which the Commission has jurisdiction. If, however, the Commission desires to include a condition to ensure the project complies with a federal regulation, Genesis recommends these modifications***.

CONDITION OF CERTIFICATION BIO-25

Genesis has demonstrated that there are no groundwater dependent communities or vegetation within the Project Disturbance area or vicinity, including Ford Dry Lake. Additionally, the Applicant has provided current and historic information on the closest potentially groundwater dependent community (northwest of Palen Lake, west of the Project) and concluded that there will not be significant impacts to these communities as a result of the Project.

The water table below Ford Dry Lake is approximately 50 ft; under the Project Area it is 70-90 ft (Worley Parsons 2009). No obligate phreatophytes occur within the 10 mile pumping centroid of the Project wells. All tree and shrub species that occur in this zone and could be considered facultative phreatophytes (ironwood, bush seepweed, palo verde) are dependent on surface water, not ground water, even considering capillary rise. The groundwater drawdown in the honey mesquite community northwest of Palen Lake is expected to be <0.01 feet over the Project life. Even considering some level of uncertainty in modeling, it is not reasonable to consider that Genesis would affect the phreatophyte community there. Furthermore, there would be no way to separate any effects to the Palen Lake mesquite community from other project impacts in that portion of Chuckwalla Valley.

Using aerial photography to view changes in the mesquite community at northwestern Palen Lake over time, Worley Parsons (2010: Figure 28) demonstrated that the community did not change from 1977 to 2002. Groundwater pumping for agriculture in Chuckwalla Valley during the late 1970s and early 1980s lowered the water table ~39 m near Desert Center, west of Palen Lake, between 1980 and 1985; during this same period a well north of Palen Lake (Well 49) showed a groundwater decline of ~1.5 m (Worley Parsons 2010: Page 21 and Figure 18). The mesquite community at northwestern Palen Lake did not change during this period of maximum recorded historical water level drawdown in the basin, and cumulative drawdown associated with the future pumping in the basin is expected to be less than this amount. In summary, no Project effects are anticipated at Palen Lake, and the cumulative drawdown associated with future pumping in the basin is less than the historical maximum drawdown and would not affect the identified honey mesquite community. Therefore, Genesis recommends the Commission delete these Conditions of Certification.

If CEC staff insists on monitoring, it should only apply to a wet-cooling scenario because under a dry-cooling scenario there would be even less concern for impacts to groundwater dependent vegetation. See attached tech memo and figure representing the drawdown effect of a dry-cooling scenario.

BIO-25 ***If the Project uses wet-cooling, t***he Applicant shall prepare and implement a Draft Groundwater-Dependent Vegetation Monitoring Plan (Vegetation Monitoring Plan). The objectives of the Vegetation Monitoring Plan shall be to monitor the Project effects of groundwater pumping on groundwater-dependent vegetation (phreatophytes) and, in conjunction with **BIO-26**, to ensure that the Project has a less than significant effect on groundwater-dependent ecosystems. The Vegetation Monitoring Plan shall be consistent with guidance for designing vegetation monitoring plans and conducting statistical analysis in *Measuring and Monitoring Plant Populations* (Elzinga et al. 1998). Monitoring shall focus on areas containing obligate or facultative phreatophytes (mesquite, ironwood, bush seep-weed, palo verde, cat's claw, smoke tree, and tamarisk) in areas that are most likely to be influenced by groundwater (low-lying areas in the basin floor). Monitoring sites shall include:

CONDITION OF CERTIFICATION BIO-28

Based on results from 2010 helicopter surveys, there will** be a very **low risk to golden eagles during Project construction. Helicopter survey results show that only 3 nests were found within 10 miles of the Project, all of which were between 8 and 10 miles from the Plant Site and out of line of sight of the Plant Site. Therefore, for this particular project, there is very low construction risk and monitoring during the construction phase is unwarranted. See the* Golden Eagle Risk Assessment for the Genesis Solar Energy Project*, docketed with the CEC on June 18, 2010. Therefore Genesis requests BIO-28 be deleted.

CONDITION OF CERTIFICATION BIO 29

BIO-29 The Project owner may choose to satisfy its mitigation obligations identified in this Decision by paying an in lieu fee *in an amount not to exceed the security deposit amounts established in BIO-12 plus a 5% contingency* instead of acquiring compensation lands, pursuant to Fish and Game code sections 2069 and 2099 or any other applicable in-lieu fee provision, to the extent the in-lieu fee provision is found by the Commission to be in compliance with CEQA and CESA requirements.

~~Verification:~~ *No later than 30 days prior to ground-disturbing activities, the Project owner shall provide documentation to the CPM verifying that the above funds have been placed into the proper account.* ~~If electing to use this provision, the Project owner shall notify the Commission that it would like a determination that the Project's in-lieu fee proposal meets CEQA and CESA requirements.~~

Rationale: Genesis believes that in order for SB34 to serve its intended purpose, the CEC Decision needs to include a provision that allows Genesis to meet its mitigation obligations for impacts to CESA-covered species by paying a specified, not-to-exceed amount into the account set up by that bill.

WorleyParsons
resources & energy

Infrastructure and Environment
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Folsom, CA 95630, USA
Telephone: +1 916 817-3920
Facsimile: +1 916 983-1935
www.worleyparsons.com

June 9, 2010

52004617

Genesis Solar LLC

700 Universe Blvd.
Juno Beach, FL 33408
Attn: Mike Pappalardo, Environmental Manager

Re: Technical Memorandum – Predicted Effects of Dry Cooling Water Demand on Groundwater Resources, Genesis Solar Energy Project, Riverside County, CA

Dear Mr. Pappalardo:

This technical memorandum presents the results of additional groundwater modeling conducted to evaluate the potential effects of groundwater use by the Genesis Solar Energy Project in Riverside County, California (the Project) if a dry-cooling alternative were implemented. The Project background, setting, and the methods and results of groundwater modeling to evaluate the potential effects of the Project on groundwater resources (assuming a wet-cooled water demand) were presented in the *Groundwater Resources Investigation* (WorleyParsons, 2010a).

Additional forward predictive modeling was conducted using the existing numerical groundwater model described in the *Groundwater Resources Investigation* to evaluate project effects under a dry-cooled water demand scenario. Specifically, pumping from a well completed in the deep, confined aquifer was simulated using the following model inputs:

- A theoretical well was simulated at the pumping centroid modeled during previous analysis;
- The well was simulated to be screened from 800 to 1,200 feet below ground surface (bgs);
- The well was assumed to pump water at a rate of 1,368 acre-feet/year (AFY) during a 3-year construction period and 202 AFY during a 30-year operation period;
- Drawdown and changes flow across model boundaries were evaluated at the conclusion of construction (3 years), after 5 years (initial operation) and at the end of the Project life (33 years);
- The forecast water budget was evaluated for the life of the project.

As discussed in the *Groundwater Resources Investigation*, the final depth and screened interval(s) of the production wells for the Project will be determined based on lithologic and water quality data from a pilot boring drilled at the actual well location. It is anticipated that the production wells to supply a dry-cooled project would require a lower transmissivity than those for a wet cooled project, and this is reflected in the shorter screened interval used in the dry-cooled simulation. The actual elevation of the screened intervals may be somewhat different from the depths simulated; however, they will screened within the deep confined aquifer between approximately 800 and 1,800 feet bgs, and the

transmissivity of the wells will be similar to what was simulated herein. As long as the actual well completion is within these general parameters, this simulation should be adequate for evaluation of potential impacts to groundwater resources.

Note that the actual groundwater demand during years two and three of the construction schedule is anticipated to be approximately one half of what was simulated; however, 1,368 AFY is simulated for the entire construction period because the Staff Assessment/Draft Environmental Impact Statement issued by the California Energy Commission (CEC) and the Bureau of Land Management (BLM) considers a construction water demand of 1,368 AFY for the entire construction period (BLM and CEC, 2010).

Predicted Drawdown

Predicted drawdowns at key locations after 3, 5 and 33 years of pumping are summarized below in **Table 1**. Results of the predictive simulation after 33 years (the maximum predicted drawdown) are presented graphically in **Figure 1** and **Figure 2**. These figures present contours of the maximum predicted drawdown in the pumped interval (model Layer 11) and drawdown at the water table (model Layer 1), respectively. The maximum drawdown is predicted in model Layer 11, which is within the confined aquifer pumping interval, and is greatest at the modeled production well. Minimal drawdown is predicted at the water table. The predicted drawdown at McCoy Spring applies to the basin sediments downslope from the spring.

Table 1: Drawdown Predicted by the Numerical Model

	Drawdown (feet) Predicted by the Numerical Model						
Years of Pumping	Water Table Near McCoy Spring	Well No. 4	Well No. 14 (Froat's Well)	Well No. 22 (Wiley's Well Rest Stop)	Production Well Pumping Interval	Production Well Water Table	Water Table at Palen Lake
3	0	0.58	0.30	0.11	13.47	0	0
5	0	0.47	0.33	0.20	2.53	0	0
33	0.01	0.38	0.31	0.21	2.31	0.02	0

A complete listing of predicted interference drawdown at all active or potentially usable wells identified within the model boundary is presented as **Table 2**. Note that these wells and their associated screened intervals were incorporated into the model, and the predicted drawdown for each well consists of the drawdown at the well location in the model layer(s) in which that well is screened, and may not correspond to the maximum drawdown at that location, which could occur in a different layer

above or below the well's screened interval. The predicted drawdown in these wells after 33 years of pumping ranges from 0 to 0.24 feet.

Table 2: Predicted Drawdown at Nearby Wells

Well ID	Model Layer	Drawdown (ft)		
		3 years	5 years	33 years
2	1	0	0	0.01
3	11	0.53	0.13	0.24
4	11	0.58	0.47	0.38
5	1	0	0	0.01
13	10	0.29	0.32	0.31
14	11	0.30	0.33	0.31
18	9	0.27	0.30	0.29
19	3	0.65	0.07	0.08
22	11	0.11	0.20	0.21
24	9	0.09	0.18	0.19
25	4	0.05	0.10	0.11
26	11	0.04	0.11	0.24
29	11	0.05	0.11	0.24
33	11	0.04	0.10	0.18
34	11	0.04	0.10	0.18
35	11	0.03	0.09	0.17
36	11	0.04	0.11	0.18
37	11	0.05	0.11	0.18
38	11	0.05	0.12	0.18
39	11	0.05	0.11	0.19
40	11	0.05	0.11	0.19
42	11	0.03	0.09	0.17
43	1	0	0	0
44	11	0.01	0.06	0.15
47	1	0	0	0

Predicted Changes in Model Underflow

Pumping for the Project is predicted to result in a relatively slight increase in the flow of groundwater into the model domain across the General Head Boundaries (GHBs) from the western portion of the Chuckwalla Valley Groundwater Basin (Reach #1) and the tributary valley to the north of the site (Reach #2). Pumping will also result in a relatively small decrease the amount of water that discharges to the Palo Verde Mesa Groundwater Basin to the East (Reach #3) (see **Table 3**).

Table 3: Predicted Changes in Underflow

GHB Reach	3 Years (GPM/ AFY)	5 Years (GPM/ AFY)	33 Years (GPM/ AFY)
Reach #1	+0.2/ + 0.3	+2/ +3	+22/+36
Reach #2	+15/ +24	+33/ +53	+25/ +40
Reach #3	-5/ -9	-18/ -29	-32/ -52

Forecast Groundwater Budget

A forecast groundwater budget for the Chuckwalla Valley Groundwater Basin through the end of the Project life is presented in **Table 4**. This forecast includes an updated assessment of the amount of underflow from the Chuckwalla Valley Groundwater Basin to the Palo Verde Mesa Groundwater Basin that was presented in the Response to CURE Water Resources Data Requests 1 – 9 (WorleyParsons, 2010b).

References

U.S. Bureau of Land Management and California Energy Commission (BLM and CEC), 2010, Staff Assessment and Environmental Impact Statement, Genesis Solar Energy Project, Application for Certification (09-AFC-8), Riverside County. March.

WorleyParsons, 2010a, Groundwater Resources Investigation, Genesis Solar Energy Project, Riverside County, California. January 8.

WorleyParsons, 2010b, Response to Cure Water Resources Data Requests 1 – 9, in support of the Application for Certification for the Genesis Solar Energy Project (09-AFC-8). April.

Please let us know if you have any questions or require additional information.

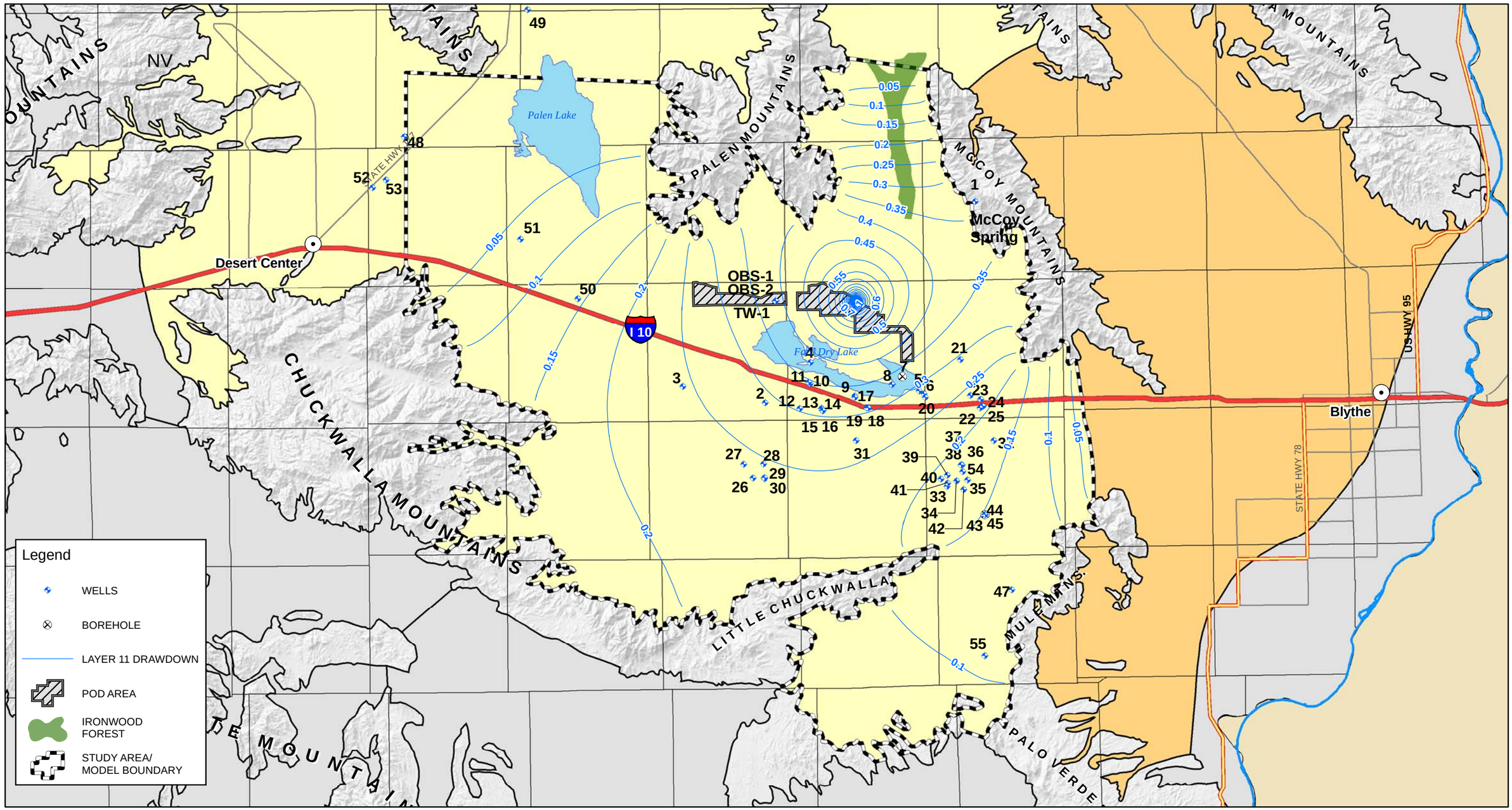
Sincerely,
WorleyParsons

Michael Tietze
Infrastructure & Environment Location Manager

Attachments: Table 4, Figures 1 and 2

R 13 14 15 16 17 18 19 20 21 22 23

T 4 5 6 7 8 9



Legend

- WELLS
- BOREHOLE
- LAYER 11 DRAWDOWN
- POD AREA
- IRONWOOD FOREST
- STUDY AREA/ MODEL BOUNDARY

13 14 15 16 17 18

N W E S

0 10 Miles

SOURCE:
SDC Major Roads
USGS 30 Meter NED (Hillshade)
CASIL Groundwater Basins
All locations approximate

GENESIS SOLAR ENERGY, LLC.

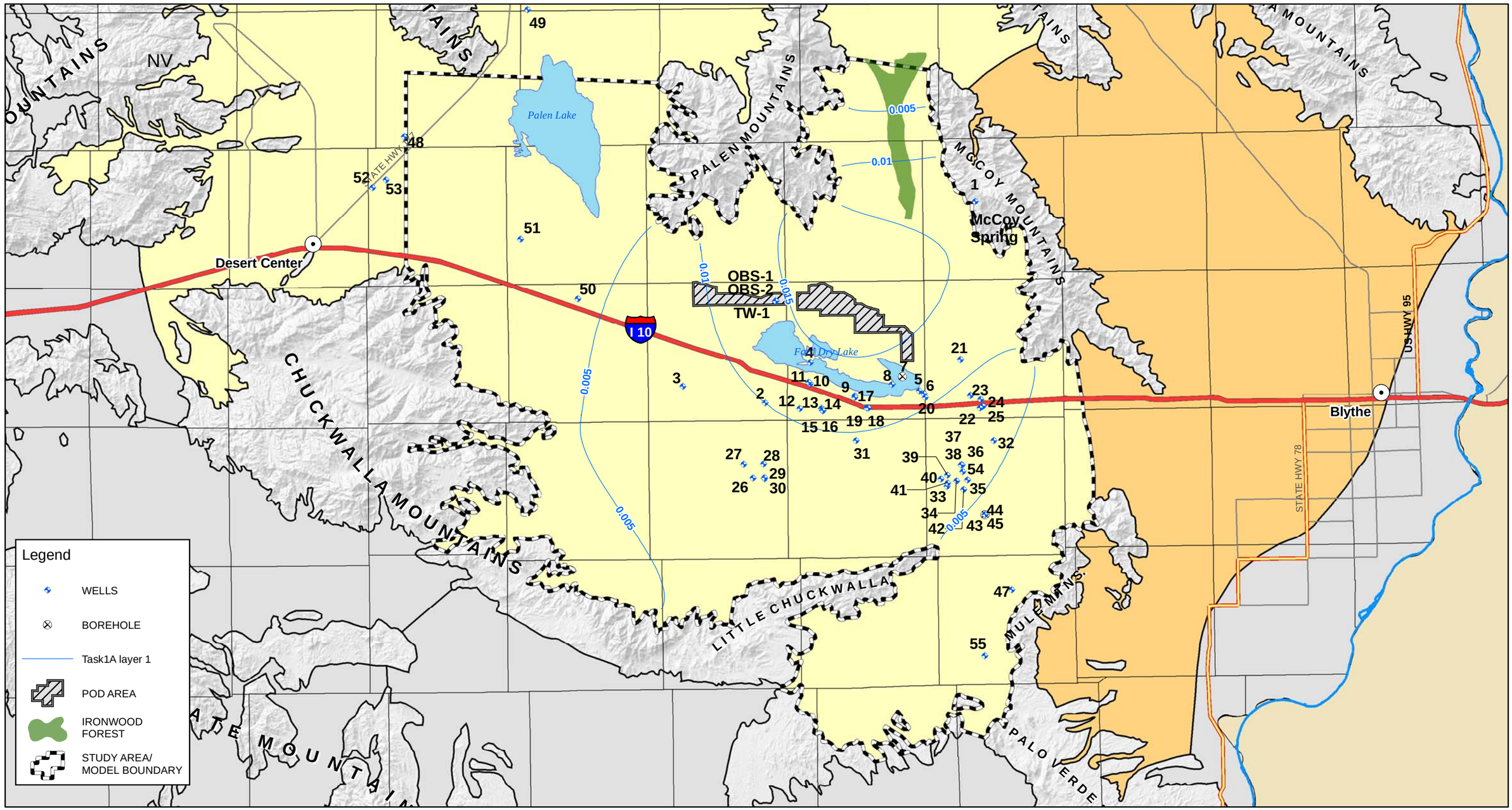
WorleyParsons
resources & energy

PREDICTED DRAWDOWN IN THE PUMPED AQUIFER (LAYER 11) AFTER 33 YEARS

SWL	NB	6/2010
52004617		1

R 13 14 15 16 17 18 19 20 21 22 23

T 4 5 6 7 8 9



Legend

- WELLS
- BOREHOLE
- Task1A layer 1
- POD AREA
- IRONWOOD FOREST
- STUDY AREA/ MODEL BOUNDARY

13 14 15 16 17 18

N W E S

0 10 Miles

SOURCE:
SDC Major Roads
USGS 30 Meter NED (Hillshade)
CASIL Groundwater Basins
All locations approximate

GENESIS SOLAR ENERGY, LLC.

WorleyParsons resources & energy

PREDICTED DRAWDOWN IN THE PUMPED AQUIFER (LAYER 1) AFTER 33 YEARS

SWL	NB	6/2010
52004617		2

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening testimony relating to Hazardous Materials for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 18, 2010.

Glen T. King

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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.

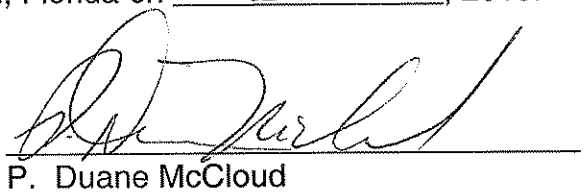
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to the Hazardous Materials for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 17, 2010.



P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Jared Foster

I, Jared Foster, declare as follows:

1. I am presently employed by WorleyParsons, as a Principal Mechanical Engineer.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Hazardous Materials for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Sacramento, CA on June 16, 2010.

_____

Jared Foster

GENESIS SOLAR ENERGY PROJECT
HAZARDOUS MATERIALS
REVISED OPENING TESTIMONY

I. Name: Glen T. King, P. Duane McCloud, Jared Foster

II. Purpose:

Our Revised Opening Testimony addresses the subject of the Hazardous Materials 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 SEGS III - IX, 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 Hazardous Material. I prepared or assisted in the preparation of the Hazardous Material 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 Hazardous Materials 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.

Jared Foster: I am presently employed at WorleyParsons, and have been for the past 4 years and am presently a Principal Mechanical Engineer with that organization. I have a Bachelor Degree in Mechanical Engineering and I have over 8 years of experience in the field of Mechanical Engineering. I prepared or assisted in the preparation of the Hazardous Materials 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 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.

Exhibit 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 5.12.
Exhibit 12	**Genesis Solar, LLC's Informational Hearing & Site Visit Presentation,** dated December 10, 2009, and docketed on December 18, 2009.
Exhibit 51	**Genesis Solar LLC's Proposed Conditions of Certification for Other Resource Areas,** dated April 30, 2010, and docketed on May 3, 2010.

V. Opinion and Conclusions

We have reviewed the Hazardous Materials section of the Revised Staff Assessment (RSA) and agree that with incorporation of the Conditions of Certification as modified below, the GSEP will not result in significant impacts and will comply with all applicable hazardous materials-related laws, ordinances, regulations and standards (LORS).

CONDITION OF CERTIFICATION HAZ-6, sub-part 9

Genesis requests the following modifications to this Condition of Certification to reflect language we believe was agreed upon at the Staff Assessment Workshop and appears to be inadvertently missed in the RSA.

9. additional measures to ensure adequate perimeter security consisting of either:

   A. security guard(s) present 24 hours per day, 7 days per week; **or**
   B. power plant personnel on site 24 hours per day, 7 days per week, ***and one of the following:***

      perimeter breach detectors or

CCTV able to view both site entrance gates and 100% of the power block area perimeter.
~~**and** the CCTV able to view 100% of the entire solar array fenceline perimeter~~
~~**or** breach detectors **or** on-site motion detectors along the entire solar array fenceline.~~

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Richard B. Booth

I, Richard B. Booth, declare as follows:

1. I am presently employed by Tetra Tech EC, Inc., as a Supervising Project Manager.

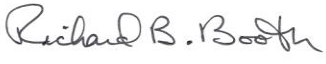
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Public Health for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Shingletown, CA on _June 16, 2010.



Richard B. Booth

GENESIS SOLAR ENERGY PROJECT
PUBLIC HEALTH
REVISED OPENING TESTIMONY

I. Name: Richard B. Booth

II. Purpose:

My Revised Opening Testimony addresses the subject of Public Health associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

I am presently employed at Tetra Tech EC, Inc., and have been for the past 5 years and am presently a Supervising Project Manager with that organization. I have a BA Degree in Natural Sciences and I have over 22 years of experience in the field of Public Health. I prepared or assisted in the preparation of the Public Health 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 my 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. I 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, I am sponsoring the following exhibits in this proceeding.

Exhibit 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 5.15.
Exhibit 11	**Data Requests Set 1A Responses (1 through 227),** dated December 14, 2009, and docketed on December 15, 2009, Responses 137 through 142.
Exhibit 51	**Genesis Solar LLC's Proposed Conditions of Certification for Other Resource Areas,** dated April 30, 2010, and docketed on May 3, 2010.

V. Opinion and Conclusions

We have reviewed the Public Health section of the Revised Staff Assessment (RSA) and agree that with incorporation of the Conditions of Certification, the GSEP will not result in significant Public Health impacts and will comply with all applicable public health-related laws, ordinances, regulations and standards (LORS).

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF Scott A Busa**

I, Scott A Busa, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC, as a Director of Business Development.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Land Use for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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, FL on 16 JUNE, 2010.

Scott A Busa

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** MEG E. RUSSELL

I, MEG RUSSELL, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC., as a Project Director in Business Development.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Land Use for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 16, 2010.

Meg E. Russell

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Andrea M Slusser

I, Andrea M Slusser, declare as follows:

1. I am presently employed by Tetra Tech, EC Inc, as a part time land use planner and visual resources specialist.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Land Use for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Bothell, WA on June 17, 2010.

Andrea M Slusser

GENESIS SOLAR ENERGY PROJECT
LAND USE
REVISED OPENING TESTIMONY

I. Name: Scott A Busa, Meg E. Russell and Andrea M. Slusser

II. Purpose:

Our Revised Opening Testimony addresses the subject of Land Use associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

Scott A. Busa: I am presently employed at NextEra Energy Resources, and have been for the past 21 years and am presently a Director with that organization. I have over 23 years of experience development, construction, and operation of Electrical Utilities and Power Generation. I prepared or assisted in the preparation of the Land Use 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 attached resume.

Meg E. Russell: I am presently employed at NextEra Energy Resources, LLC, and have been for the past two years and am presently a Project Director with that organization. I have a Masters Degree in Business and I have over nine years of experience in the field of Project/Program Management. I prepared or assisted in the preparation of the Land Use 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.

Andrea M. Slusser: I am presently employed at Tetra Tech, EC Inc, and have been for the past 9 years and am presently a Land Use Planner and Visual Resources Specialist with that organization. I have a Bachelor of Science Degree in Natural Resources Planning and I have over 9 years of experience in the field of land use planning and NEPA. I prepared or assisted in the preparation of the Land Use and Visual Resources 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.

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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 5.7
Exhibit 11	**Data Requests Set 1A Responses (1 through 227),** dated December 14, 2009, and docketed on December 15, 2009, Responses 124 through 136.
Exhibit 15	**Report of Conversation Regarding Clarification of Land Use Data Responses (Between Tricia Bernhardt, Mike Monasmith, Negar Vahidi & Jacob Hawkins),** dated December 28, 2009, and docketed on December 30, 2009.

V. Opinion and Conclusions

We have reviewed the Land Use section of the Revised Staff Assessment (RSA) and, together with the testimony set forth below, agree that the GSEP will comply with all applicable land use-related laws, ordinances, regulations and standards (LORS). We disagree with Staff's conclusion that the GSEP will result in a cumulative significant land use impact for the reasons outlined below.

Page C.6-21 et seq.

Staff has determined that the Land Use section of the RSA complies with all LORS. To that we are agreed. However, the CEQA level cumulative impact analysis regarding the Land Use / visual component of the RSA errantly inflates the impacts due to the relative collective size, instead of an analysis based on the diminimus size within this region and, similarly, do not fully appreciate the location of this site to any actual public viewing area. GSEP distinguished below and points out the following:

Ag Lands / Rangeland:	impacts less than significant
Wilderness / Recreation:	impacts less than significant
Horses and Burros:	impacts less than significant
Land Use Compatibility:	impacts less than significant
Cumulative Land Use Effects:	significant and unavoidable

It is an error for Staff to conclude that the proposed project would reduce scenic values. On the one hand, Staff states that the effect on wilderness and

recreational use from the proposed project alone is less than significant. Then on the other hand they indicate that when combined with the effects of other projects (past, present and future) it is a significant and unavoidable reduction in scenic values [at page C.6-33]. This conclusion is unsupported by fact.

First, the cumulative comparative analysis is deficient as it does not account for the fact that the GSEP is well out of the view-shed for all, or almost all, persons who are in or pass this region. And secondly, the reliance on Cumulative Tables 2 and 3 are defective in that they portend to assess the reasonably foreseeable future projects – which neglect to account for the diminished ROW land use that will occur in all projects when selecting the actual footprint – as was the case in GSEP (as well as Blythe, Palen, etc., etc.). At Page B.3-11 (Cumulative Table 3), this becomes painfully obvious as staff uses a 20,608 acre prospective site as part of the sum of their denominator for cumulative analysis (Nextera McCoy Springs, 250MW). The actual disturbance may be a tenth of that included in staff's calculation. So, it is patently obvious that their base case is extremely overstated.

Accordingly the visual component of the Land Use finding of "no" relating to whether impacts are mitigated is unsubstantiated and unfounded. The Committee, along with Staff, should acknowledge the superior location and placement of this project in its cumulative land use assessment and find that the GSEP does not interfere, individually or collectively, with any scenic values in this region.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening testimony relating to the Noise and Vibration for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 17, 2010.

P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Jared Foster

I, Jared Foster, declare as follows:

1. I am presently employed by WorleyParsons, as a Principal Mechanical Engineer.

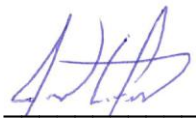
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Noise and Vibration for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Sacramento, CA on June 16, 2010.



Jared Foster

GENESIS SOLAR ENERGY PROJECT
NOISE AND VIBRATION
REVISED OPENING TESTIMONY

I. Name: P. Duane McCloud and Jared Foster

II. Purpose:

Our Revised Opening Testimony addresses the subject of the Noise and Vibration associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

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 Noise and Vibration 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.

Jared Foster: I am presently employed at WorleyParsons, and have been for the past 4 years and am presently a Principal Mechanical Engineer with that organization. I have a Bachelor Degree in Mechanical Engineering and I have over 8 years of experience in the field of Mechanical Engineering. I prepared or assisted in the preparation of the Noise and Vibration 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 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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 5.9.
Exhibit 12	**Genesis Solar, LLC's Informational Hearing & Site Visit Presentation**, dated December 10, 2009, and docketed on December 18, 2009.
Exhibit 51	**Genesis Solar LLC's Proposed Conditions of Certification for Other Resource Areas,** dated April 30, 2010, and docketed on May 3, 2010.

V. Opinion and Conclusions

We have reviewed the Noise and Vibration section of the Revised Staff Assessment (RSA) and agree that with incorporation of the Conditions of Certification, the GSEP will not result in significant noise and vibration impacts and will comply with all applicable noise and vibration-related laws, ordinances, regulations and standards (LORS).

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Michael Tietze

I, Michael Tietze, declare as follows:

1. I am presently employed by Worley Parsons., as a Senior Hydrologist and Location Manager.

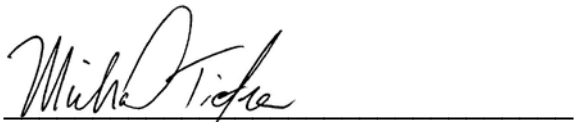
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening 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 revised opening 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 revised opening 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 16, 2010.



Michael Tietze

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening 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 revised opening 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 revised opening 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 June 17, 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.

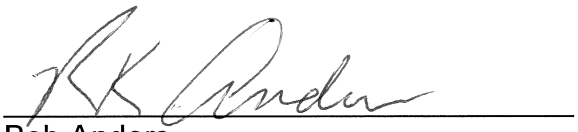
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening 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 revised opening 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 revised opening 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 17, 2010.



Bob Anders

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening testimony relating to Soil and Water Resources (as related to 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 revised opening 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 revised opening 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 15, 2010.

Miles D. Kenney

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF Scott A Busa**

I, Scott A Busa, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC, as a Director of Business Development.

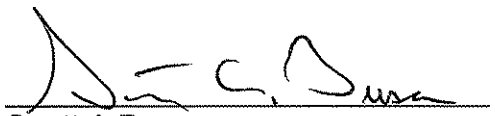
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to 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 revised opening 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 revised opening 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, FL on 16 June, 2010.



Scott A Busa

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Kenneth Stein

I, Kenneth Stein, declare as follows:

1. I am presently employed by NextEra Energy Resourcess, 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 revised opening 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 revised opening 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 revised opening 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 Ft. Lauderdale, FL on June 17, 2010.

Kenneth Stein

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Jared Foster

I, Jared Foster, declare as follows:

1. I am presently employed by WorleyParsons, as a Principal Mechanical Engineer.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to 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 revised opening 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 revised opening 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 Sacramento, CA on 16, 2010.

_____

Jared Foster

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** Jeffrey Harvey

I, Jeffrey Harvey, declare as follows:

1. I am presently employed by Harvey Meyerhoff Consulting Group, as a Principal.

2. A copy of my professional qualifications and experience is included herewith (Attachment to revised opening testimony) and is incorporated by reference in this Declaration.

3. I prepared the attached revised opening testimony relating to 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 revised opening 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 revised opening 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 on 18 June, 2010.

Jeffrey Harvey

GENESIS SOLAR ENERGY PROJECT
SOIL & WATER RESOURCES
REVISED OPENING TESTIMONY

I. Name: Michael Tietze, P. Duane McCloud, Bob Anders, Miles Kenney, Scott A. Busa, Kenneth Stein, Jared Foster and Jeff Harvey

II. Purpose:

Our Revised Opening Testimony addresses the subject of Soil and Water associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

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.

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 as supplement 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 to my Opening testimony.

Scott A. Busa: I am presently employed at NextEra Energy Resources, and have been for the past 21 years and am presently a Director with that organization. I have over 23 years of experience development, construction, and operation of Electrical Utilities and 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 attached resume.

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 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.

Jared Foster: I am presently employed at WorleyParsons, and have been for the past 4 years and am presently a Principal Mechanical Engineer with that organization. I have a Bachelor Degree in Mechanical Engineering and I have over 8 years of experience in the field of Mechanical Engineering. 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.

Jeffrey G. Harvey, Ph.D.: I am Principal and Senior Scientist for the Harvey Meyerhoff Consulting Group, (HMCG), an environmental consulting firm based in Sacramento, California. I have more than 25 years of professional experience as a consultant in project planning and environmental reporting for local, state, and federal government agencies,

nonprofit environmental groups, and private resource developers. I hold degrees in Geography, including a B.A. (emphasis in physical geography), and M.A. (emphases in environmental planning, water resources development, and impact analysis) from CSU Chico, and a Ph.D. from UCLA, (emphases in environmental and policy, natural resources management, western water resources, and impact analysis). For the past decade I have been deeply involved in complex water, power, and environmental restoration projects in the southern California desert region, with a focus on the Colorado River, regional groundwater, the All American and Coachella canals, and the Salton Sea. A more detailed description of my qualification is contained in the attached resume.

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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Sections 5.4, 5.6, and Appendices F & H.
Exhibit 3	**Data Adequacy Supplement,** dated October 2009, and docketed on October 12, 2009.
Exhibit 4	**Data Adequacy Supplement 1A,** dated October 26, 2009, and docketed on October 27, 2009.
Exhibit 10	**Groundwater Model Sensitivity Analysis,** dated December 9, 2009, and docketed on December 15, 2009.
Exhibit 11	**Data Requests Set 1A Responses (1 through 227),** dated December 14, 2009, and docketed on December 15, 2009, Responses (143 through 214).

Exhibit 12	**Genesis Solar, LLC's Informational Hearing & Site Visit Presentation,** dated December 10, 2010, and docketed on December 18, 2009.
Exhibit 13	**Test Well #2 Ford Dry Lake Supplemental Investigation,** dated December 18, 2009, and docketed on December 21, 2009.
Exhibit 14	**Low Resolution Scan of the Borehole Logs for OBS-1, OBS-2, TW-1, AND TW-2**, dated _____, and docketed on December 23, 2009.
Exhibit 16	**Notification of Lake of Streambed Alteration,** dated December 30, 2009, and docketed on December 31, 2009.
Exhibit 18	**Genesis Solar, LLC's Cumulative Impact Analysis,** dated December 31, 2010, and docketed on January 4, 2010.
Exhibit 20	**Supplement to the Genesis Surface Drainage Data Requests,** dated January 4, 2010, and docketed on January 11, 2010.
Exhibit 22	**Report of Conversation Regarding Surface Drainage Data Requests (Between Mike Daly and Bob Anders),** dated January 6, 2010, and docketed on January 12, 2010.
Exhibit 25	**Storm Water Flood Routing Calculation Report,** dated January 15, 2010, and docketed on January 15, 2010.
Exhibit 27	**AFC Supplemental Information Re: Groundwater Resources Investigation,** dated January 13, 2010 and docketed on January 19, 2010.
Exhibit 28	**FLO -2D Model Run**, dated January 2010, and docketed on January 20, 2010.

Exhibit 29	**Preliminary Report of Ancient Shorelines in Ford Dry Lake**, dated January 19, 2010, and docketed on January 25, 2010.
Exhibit 33	**Applicant's Draft Channel Maintenance Plan,** dated January 2, 2010, and docketed on February 4, 2010.
Exhibit 35	**Aeolian Transport Evaluation & Ancient Shoreline Delineation Report,** dated February 5, 2010, and docketed on February 10, 2010.
Exhibit 36	**Report of Conversation Regarding Genesis Surface Drainage DR (Between Mike Daly, Bob Anders & Dipti Sheth),** dated February 9, 2010, and docketed on February 11, 2010.
Exhibit 43	**Genesis Solar LLC's Supplemental Groundwater Resources Investigation,** dated March 10, 2010, and docketed on March 16, 2010.
Exhibit 48	**Genesis Solar LLC's Data Responses to CURE's Data Request Set 2 (1 through 9),** dated April 28, 2010, and docketed on April 28, 2010.
Exhibit 49	**Genesis Solar LLC's Proposed Soil & Water Conditions of Certification,** dated March 2010, and docketed on April 29, 2010.
Exhibit 52	**Genesis Solar LLC's Data Responses to CURE's Data Request Set 3, (1 through 2),** dated May 2010, and docketed on May 3, 2010.

V. Opinion and Conclusions

We have reviewed the Soil and Water Resources section of the Revised Staff Assessment and disagree with much of the analysis contained therein. We believe that with incorporation of the modifications set forth below to the Conditions of Certification, the Project will not result in significant Soil and Water impacts and will comply with all applicable Soil and Water Resource-related laws, ordinances, regulations and standards (LORS).

COLORADO RIVER WATER LAW, POLICY AND IMPACTS

A. We contest substantial portions of staff testimony regarding water issues as presented in the Revised FSA, particularly with regard to staff's unsupported assertion that the project's groundwater pumping can induce flow from the Colorado River approximately 28 miles to the east (over 30 miles along the path of groundwater flow). This unsupported assertion leads staff to erroneously conclude that California groundwater is actually Colorado River surface water, and that legal use of California groundwater requires the applicant to obtain a legal entitlement to use Colorado River water. We also contest staff's contention that mitigation is required with regard to Colorado River water (proposed Conditions of Certification Soil&Water-15 and Soil&Water-19 requiring acquisition of offsets to Lower Colorado River water, and complex groundwater modeling). Therefore, the following testimony will focus primarily on two areas:

1) water supply issues identified in the staff's Revised FSA testimony related to the distinction between California groundwater and Colorado River surface water; and

2) groundwater depletion and the potential for Colorado River water to be affected in any detectable way by pumping groundwater from the Chuckwalla Valley Aquifer more than 30 miles from the Colorado River.

The body of staff's testimony regarding project water supply and groundwater use is based entirely upon unsupported and erroneous assumptions regarding the potential for project groundwater pumping to induce flows from the Colorado River (staff testimony pages C.9-2 and C.9-47 and 48). Although staff acknowledges (and the Commission has ruled) that the Colorado River accounting surface is a model and does not constitute applicable LORS, they have nonetheless contrived their analysis to claim that legitimate use of California groundwater will impact a surface water system more than 30 miles away in a manner requiring mitigation for the surface water system. Staff fundamentally misunderstands – or willfully misinterprets – the legal, geological, and hydrological distinction between groundwater and surface water – something the Commissioners recognized in their analysis and conclusions for two previous projects that addressed these same issues (BEP I and II).

1. Groundwater is distinct from surface water, geologically, hydrologically, and legally. Groundwater is not surface water, and surface water is not groundwater.

Groundwater and surface water are distinct water systems physically, in practice and in law. They are universally related in the hydrologic cycle, and virtually all groundwater in unconfined and confined aquifers is derived from recharge by seepage and deep percolation of surface waters. That the groundwater bodies under the Chuckwalla Valley and down gradient Palo Verde Mesa Aquifer were predominantly recharged by the percolation of surface waters is not disputed. The Chuckwalla Basin contains an estimated 15 million acre-feet in storage and has been recharged over tens of thousands of years by percolating surface waters, and in recent decades, by percolation from irrigated farm lands, septic tanks and treated wastewater from the State prisons in the eastern edge of the basin. It is important to note that Colorado River water does not recharge the Chuckwalla Basin, and subsurface water movement is from the Chuckwalla Basin into the Palo Verde Mesa basin over a buried bedrock ridge (as staff reports, page C.9-22, last paragraph). Recharge of the Palo Verde Mesa Aquifer includes surface sources (prehistorically the Colorado River, and at present the McCoy Wash, and stormwater detention ponds), and percolation losses of applied irrigation water on the Palo Verde Mesa *and the Palo Verde Valley*. Simply having identified the sources of recharge at present and over geologic time does not change the fact that the recharged groundwater is groundwater – distinct from surface water – and governed by California water law pertaining to groundwater.

Staff's primary assertion, and fundamental error throughout their technical report, is that groundwater drawn from wells located more than thirty (30+) miles along the direction of groundwater flow from the Colorado River and over 800 feet below the surface – and separated from the down gradient groundwater basin by a buried bedrock ridge – is actually depleting a surface water system in any detectable quantity or over any reasonable time frame, or at all. In its proposed Conditions of Certification (S&W-15 and S&W-19), staff also asserts that this use of California groundwater should be accounted for and mitigated as surface water of the Colorado River. Since the Lower Colorado River is fully allocated, staff concludes that this accounting of groundwater as surface water constitutes a finding of significant adverse impact.

As we have testified consistently in the Blythe Energy Project cases (Phases I and II), and in numerous responses to data requests for the BEP II case and this GSEP case, each of these premises is false, and staff has failed to cite any LORS or provide any supporting evidence for their assertions. The facts remain unchanged, as follows:

- In California, property owners are allowed to pump groundwater from beneath their property for beneficial uses on their property without obtaining a formal water right. Shallow wells in close proximity (up

to about one-half mile) to a surface water body and within a well defined subsurface bed and banks, have been found to be directly linked to surface water, requiring a surface water right. In no case in California is a deep well located miles from a stream channel considered to be directly linked to, or classified as surface water.

- The Genesis Solar Energy Project proposes to utilize groundwater extracted from on-site wells that draw groundwater from a depth approximately between 800 and 1800 feet below ground surface, and more than thirty miles from the Colorado River. As staff acknowledges, under California water law, a landowner may pump groundwater from beneath their own lands for use on their property. No other LORS regarding use of this groundwater apply to this project.

- All aquifers – unconfined and confined – are recharged over geologic time from a surface water source. Staff's assertion that *groundwater should be accounted for as surface water* simply because a cone of depression from a well creates a localized gradient that may alter localized subsurface flow directions negates all of California water law (and that of most western states) which clearly distinguishes between groundwater and surface water. Staff's position could be applied anywhere in the State to claim that all wells ultimately are connected to surface water for groundwater recharge, and therefore all wells should be regulated as surface water. For example, according to staff's position, this fundamental geologic relationship would claim all wells in the Sacramento Valley, or San Joaquin Valley as surface water diversions from those rivers. This is in distinct contrast to more than a century of State water management, water rights law, and water use practice.

- There are some adjudicated groundwater basins in California subject to special rules, however, this exception does not apply to the Chuckwalla Valley or the Palo Verde region, and none of the many dozens of operating wells in the Chuckwalla Valley (or the Palo Verde Mesa or Palo Verde Valley which lie between the project's wells and the Colorado River) are regulated by either the State or federal governments, or required to be accounted for as surface water.

- As determined by the Commission during the Blythe I and II deliberations, groundwater use does not constitute a LORS issue, and does not pose a significant environmental effect (page 208, BEP [I] Final Decision, and pages 250 and 254, BEP II Final Decision). After a second thorough vetting of these issues in the Blythe II deliberations, the Commission again made the same determination after developing and presenting a detailed and cogent understanding of the complexity of the groundwater and surface water relations in the Palo Verde Valley and Mesa regions; (see

pp. 248-255, BEP II Final Decision). In this case, the project's wells in the Chuckwalla Valley are nearly 20 miles further west than the BEP I and II wells that the Commission determined to have no effect on the Colorado River.

After careful analysis in the BEP II case, the Commission concluded:

Commission Discussion

The Commission finds that Palo Verde Mesa groundwater and Colorado River water are legally distinct. The overland owner has rights under California law to use groundwater. Other than the few cases of underflow, the USBR has not asserted jurisdiction to directly regulate groundwater use from wells that are known to be in aquifers that are recharged by Colorado River water.

Currently, however, the USBR indirectly regulates such groundwater through the allocation and accounting system for providers such as PVID. PVID's allocation of Colorado River water receives a "credit" for all return water returned to the River. However, that "credit" is reduced by irrigation water and canal water that percolates into and recharges the underlying aquifer. BEP II's use of groundwater from on-site wells is not an unauthorized use under state or Federal law.

Additionally, the Commission finds that BEP II groundwater pumping does not cause a significant project or cumulative impact under the California Environmental Quality Act, in the context of the use of groundwater. (Below, we discuss the potential for groundwater degradation due to upwelling of salinity.) The mere change of the hydrologic setting, from Rannells Drain return water flowing to the River versus a portion of that return water recharging the groundwater, is not inherently a significant impact. In the context of PVID's volume of return water back to the Colorado River, the amount of recharge water (0.6%) is not significant. With the measurement methods employed on the River, the recharge water volume is not only insignificant, it is undetectable by measurement, even though it is actually happening according to physical laws of hydrologic recharge.

The Commission is extremely mindful of the potential impact of power plants on California's water resources. Our 2003 IEPR emphasizes the need for conservation and intelligent use of available water resources. Just as we laud combined cycle generating technology for its ability to recover and efficiently use waste heat, the Commission sees that in this case the groundwater has been recovered from water previously used for irrigation. With virtual certainty, the water that will recharge the aquifer in response to

project pumping will be water dedicated initially to agricultural use. We are aware that some of the recharge water will be operational spillage; but this PVID water is effectively being used twice. Initially, it is dedicated to agricultural use, a significant segment of California's economy. Then it is recovered and stored in an aquifer as degraded groundwater to be used again for electricity production, also a significant and necessary segment of California's economy and welfare.

Therefore, the proposed use of groundwater for project cooling does not violate any applicable federal law or policy and conforms to applicable California laws and water policy.

Nothing has changed physically or legally since that time that could justify staff's continued assertions of a direct physical connection between groundwater and surface water with potential impacts requiring mitigation.

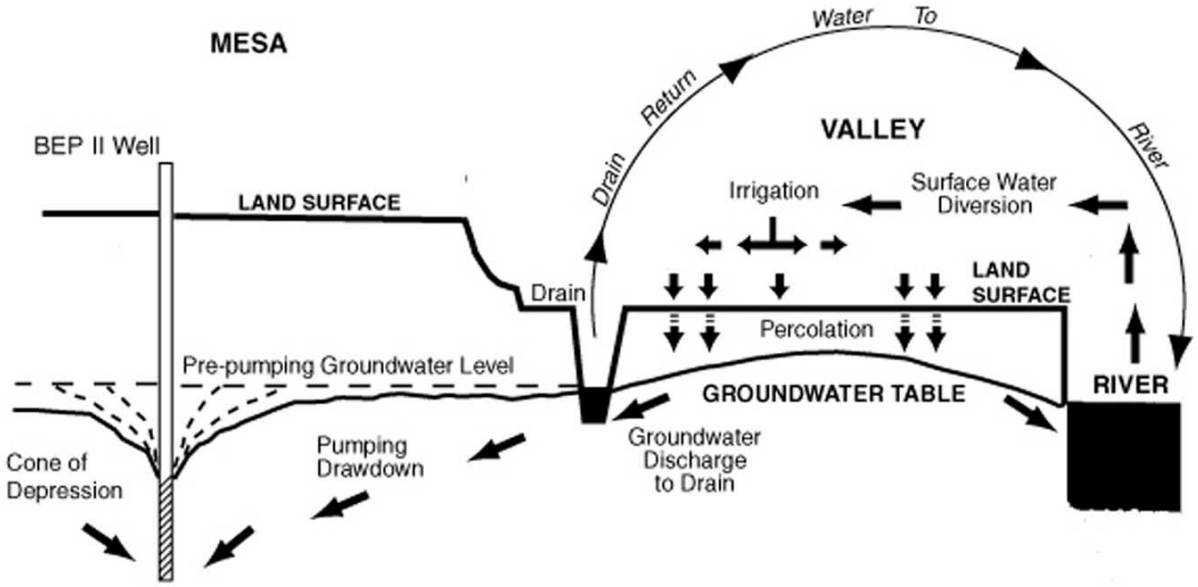
- No groundwater use in the Chuckwalla Valley, Palo Verde Valley or Palo Verde Mesa is regulated by the Bureau of Reclamation [or PVID], nor is any Chuckwalla Valley groundwater accounted for as a part of Colorado River supply for any Colorado River surface water entitlement accounting. If such policy is ever implemented, it must be equally applied to all well water users, and cannot be applied arbitrarily or capriciously to selected wells. It should particularly not be applied unilaterally – without consensus of the agencies that have water resources jurisdiction and without basis in LORS – by the California Energy Commission.

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

Groundwater is distinct from surface water. Its movement is measured in feet per day, rather than feet per second as for surface water, and it is recharged by surface water sources over extremely long periods of time. As groundwater is pumped, it creates a cone of depression and flow pattern from surrounding waters into the well. Water in the surrounding aquifer – laterally, and vertically – is thus induced to flow following that pattern towards the well and from all directions around the well. Only a portion of the induced flow will come from east of the well in the direction of the Palo Verde Mesa and Palo Verde Valley – and that portion will come as subsurface recharge water moving at rates of feet per day, not feet per second. Flow toward the project wells will be induced only a portion of the Chuckwalla Valley Groundwater Basin. We note again that this well flow may slightly reduce outflow from the Chuckwalla basin to the Palo

Verde Mesa basin over the 30-year life of the project, but there is no flow in the opposite direction that could support staff's assertion the a well in the Chuckwalla Valley could induce flow from the Colorado River. The 1) rate of movement, 2) low volume of water (relative to the millions of acre-feet of the groundwater and surface water systems involved), 3) presence of the buried bedrock ridge between the Chuckwalla and Palo Verde Mesa basins, 4) presence of low permeability silt and clay between the pumped aquifer and the water table, and 5) dynamics of the surface water system above, make it impossible to detect the groundwater withdrawals in the overlying surface water systems in any measurable way, and particularly in the Colorado River more than 30 miles away along the path of groundwater flow. (*See schematic diagram below, extracted from the Commission's Final Decision in the BEP II case, December 2005; page 251.*)

In the BEP II case, PVID confirmed that there is no way that groundwater drawn from the proposed project well could have any measurable effect on the Rannells Drain (the closest surface water source about one mile from the BEP wells) or any other part of its surface water system (Ed Smith, PVID General Manager, pers.comm. to Jeff Harvey, 07/14/05).



PVID also noted that the total of the proposed BEP II water use is not even within the range of measurement accuracy for their water system – for diversions, drain discharges, or delivery of water at major headgates within the system. The GSEP proposed water use is substantially less (about 40 percent) and located at a considerably greater distance from the Colorado River than the proposed BEP II use that was determined to be undetectable.

In addition, staff's analysis in this GSEP case is based upon an erroneous assumption that water can move freely between the River and the Mesa aquifer

and Chuckwalla basin beyond, or from the Chuckwalla basin and Mesa aquifer to the River. Staff recognizes irrigated agriculture as a source of recharge from a several hundred acres in the Chuckwalla Valley, and from several hundred acres on the Palo Verde Mesa (Blythe Solar Power Project Revised FSA, *page C.9-23, section C.9.3.3.5.2.4 Irrigation Return Flow, and page C.9-24, section C.9.3.3.5.2.6. Groundwater Budget)*, but mysteriously ignores the recharge that occurs from the 104,500 acres of irrigated lands in the Palo Verde Valley between the Mesa and the River. Using staff's own assumption that 10% of applied water infiltrates and recharges the groundwater basin, and accounting for approximately 650,000 to 950,000 acre feet of applied water in the Valley, produces additional annual recharge in the range of 65,000 to 95,000 acre-feet to the regional groundwater system east of the Chuckwalla basin.

In fact, over a period of many decades this source of recharge has produced saturated conditions in the Palo Verde Valley that has resulted in a need to install an elaborate drain system throughout PVID to maintain groundwater levels at about 9 to 10 feet below ground surface. This saturated condition also acts as a virtual barrier to free movement of water from the Palo Verde Mesa aquifer to the River, or from the River to the Valley aquifer. As illustrated in the schematic above, groundwater from the Valley forms a mound, with movement to recharge the Mesa aquifer, and with flow toward the River channel as well. As such, it is not possible for flow to be "induced" by wells in the Palo Verde Mesa Aquifer 10 miles from the River, or, obviously, from the Chuckwalla basin 20 miles further removed and separated by a bedrock ridge barrier and vertically by 800 feet of sediments.

As the Commissioners accurately described this physical condition in the BEP II Decision (*BEP II Final Decision, December 2005, page 249*):

> *In fact, irrigation with Colorado River water has raised groundwater levels in the Palo Verde Valley above historical levels. The amount of groundwater recharge from irrigation has so soaked the soil and raised the water table that a network of drainage ditches has been constructed throughout the valley to remove percolating irrigation water that would otherwise "flood" the root zones of the crops. Irrigation with Palo Verde Irrigation District's (PVID) Colorado River diversions and its network of drainage ditches maintain constant groundwater water levels a few feet below land surface throughout the Palo Verde Valley. Under these conditions, the groundwater system is hydraulically connected to the irrigation drains and unlined canals.*
>
> *Given the constant supply of percolating irrigation water and the interconnectivity of the aquifer system, groundwater recharge increases whenever groundwater pumping increases in the Palo Verde Valley or the Palo Verde Mesa. Correspondingly, increases in groundwater recharge*

cause decreases in irrigation drain discharge and return flows to the Colorado River. (FSA, pp. 4.9-9-10)

Groundwater pumping forms a cone of depression that radiates from each active well, creating groundwater gradients towards the well. Initially, the well produces water that is stored in the aquifer within the cone of depression. However, in the long-term, groundwater production is sustained by the lateral flow of water to the well. Drawdown of stored aquifer water stabilizes when the cone of depression intercepts a source of recharge water and induces flow toward the pumping well. Finally, recharge water continues to flow toward the well until the cone of depression is filled when pumping ceases.

Staff has completely ignored the Commission's analysis in the previous cases, and has made erroneous assumptions that – together with staff's fundamental misunderstanding of the distinction between groundwater and surface water – lead directly to staff's incorrect conclusions that:

1) *"that the project may have a significant impact on the adjacent (Palo Verde Mesa) groundwater basin."* (page C.9-47); and most nonsensically

3) "*Consequently, the Project has the potential to indirectly divert Colorado River water without any entitlement to the water, and all groundwater production at the site could be considered Colorado River water.*" (page C.9-47 and 48).

There is no science or analysis to support these conclusions, and they have been made only by neglecting facts, scrupulously avoiding the evidence and conclusions that the Commission developed with regard to these same questions in the BEP I and II cases, and ignoring all of California law with regard to groundwater use. For these reasons, staff's conclusions should be rejected.

C. Conclusions

The issue of water supply and use of groundwater relative to Colorado River surface water was thoroughly litigated for both the original Blythe Energy Project proposal and the Blythe Energy Phase II case. The CEC staff assessments in the recent Blythe Solar Power Project case, and again in this Genesis Solar Energy Project case, fail to acknowledge the results of that litigation. As the Commissioners have concluded in two previous siting cases involving these same issues, staff fundamentally misunderstands the legal, geological, and hydrological distinctions between groundwater and surface water, and staff's conclusions regarding potential impacts are based upon erroneous assumptions.

CONDITIONS OF CERTIFICATION

CONDITION OF CERTIFICATION SOIL&WATER-2

Genesis requests this condition be modified as follows because groundwater drawdown associated with a dry-cooled project will be much less than for a wet-cooled project and can be adequately modeled using on-site wells and test wells installed for the project.

SOIL& WATER-2 The Project owner shall submit a Groundwater Level Monitoring and Reporting Plan to the CPM for review and approval. The Groundwater Level Monitoring and Reporting Plan shall provide detailed methodology for monitoring background and site groundwater levels. Monitoring shall include pre-construction, construction, and Project operation water use. The primary objective for the monitoring is to establish pre-construction and Project related groundwater level trends that can be quantitatively compared against observed and simulated trends near the Project pumping wells and near potentially impacted existing wells.

The Project owner shall:

A. Prior to Project Construction

1. A well reconnaissance shall be conducted to investigate and document the condition of existing water supply wells located within 10 miles of the project site ***for a wet-cooled project and within 2 miles of the project site for a dry-cooled project***, provided that access is granted by the well owners. The reconnaissance will include sending notices by registered mail to all property owners within a 10 mile radius of the project ~~area~~ ***site for a wet cooled project and within 2 miles of the project site for a dry-cooled project***.

2. Monitor to establish preconstruction conditions. The monitoring plan and network of monitoring wells will make use of the two test wells and observation wells installed during the Groundwater Resources Investigation completed by the applicant (WPAR, 2010) and any monitoring wells that are installed to comply with Waste Discharge Requirements issued by the RWQCB for the evaporation ponds and land treatment unit associated with the Project. In addition, up to four additional existing wells in the basin that are located up to 10 miles from the Project site (if wet cooling is utilized) ~~or 2 miles (if dry cooling is utilized)~~ will be incorporated into the program, provided access is granted by the owners and that the wells are deemed to be of suitable location and construction to satisfy the requirements for the monitoring program. The off-site wells incorporated in the program will include both shallower wells completed above the pumped interval and deeper wells

completed within the pumped interval. The monitoring plan shall also include the identification of any seeps and or springs within one mile of the perimeter of the project site. The seeps and or springs shall be included in the groundwater level monitoring network.

……..(Remainder of Condition unchanged)

CONDITION OF CERTIFICATION SOIL&WATER-3

SOIL&WATER-3: Where it is determined that the Project owner shall reimburse a private well owner for increased energy costs identified as a result of analysis performed in Condition of Certification **SOIL&WATER-~~5~~*2*,** the Project owner shall calculate the compensation owed to any owner of an impacted well as described below.

Increased cost for energy	= change in lift/total system head x total energy consumption x costs/unit of energy
Where:	
change in lift (ft)	= calculated change in water level in the well resulting from project
total system head (ft)	= elevation head + discharge pressure head
elevation head (ft)	= difference in elevation between wellhead discharge pressure gauge and water level in well during pumping.
discharge pressure head (ft)	= pressure at wellhead discharge gauge (psi) X 2.31

The Project owner shall submit to the CPM for review and approval the documentation showing which well owners must be compensated for increased energy costs and that the proposed amount is sufficient compensation to comply with the provisions of this condition.

- Any reimbursements (either lump sum or annual) to impacted well owners shall be only to those well owners whose wells were in service within six months of the Commission decision and ~~within a 3-mile radius of the project site~~ ***that experience more than 5 feet of project-induced drawdown***.
- The Project owner shall notify all owners of the impacted wells within one month of the CPM approval of the compensation analysis for increase energy costs.
- Compensation shall be provided on either a one-time lump-sum basis, or on an annual basis, as described below.

Annual Compensation: Compensation provided on an annual basis shall be calculated prospectively for each year by estimating energy costs that will be incurred to provide the additional lift required as a result of the project. With the permission of the impacted well owner, the Project owner shall provide energy meters for each well or well field affected by the project. The impacted well owner to receive compensation must provide documentation of energy consumption in the form of meter readings***, calculations based on pump characteristics and volumes pumped,*** or other verification of fuel consumption. For each year after the first year of operation, the Project owner shall include an adjustment for any deviations between projected and actual energy costs for the previous calendar year.

One-Time Lump-Sum Compensation: Compensation provided on a one-time lump-sum basis shall be based on a well-interference analysis, assuming the maximum ***projected*** project-pumping rate***s*** ~~of 600 afy~~ ***for a wet-cooled or a dry-cooled project, as applicable***. Compensation associated with increased pumping lift for the life of the project shall be estimated as a lump sum payment as follows:

- The current cost of energy to the affected party considering time of use or tiers of energy cost applicable to the party's billing of electricity from the utility providing electric service, or a reasonable equivalent if the party independently generates their electricity;
- An annual inflation factor for energy cost of 3 percent; and
- A net present value determination assuming a term of 30 years and a discount rate of 9 percent

CONDITION OF CERTIFICATION SOIL&WATER- 4; Verification

Genesis requests modifications to the verification to accomplish the following:

1. Recognize that the County issues well permits that document compliance requirements.

2. Acknowledge that according to 23 CCR section 2511(g) (1), temporary storage of drilling mud from well drilling operations is specifically exempted from the requirements of 23 CCR 2510 et seq., as long as the referenced requirements are met.

Verification: The Project owner shall do all of the following:

A. No later than sixty (60) days prior to the construction of the onsite groundwater production wells, the Project owner shall submit to the CPM

a copy of the water well construction packet submitted to the County of Riverside.

B. No later than thirty (30) days prior to the construction of the onsite groundwater production wells, the Project owner shall submit a copy of ~~written concurrence~~ ***the well permit(s)*** received from the County of Riverside ~~that the proposed well construction activities comply with all county well requirements and meet~~ ***per*** the requirements established by the county's water well permit program.

C. No later than sixty (60) days after installation of each well at the Project site, the Project owner shall ensure that the well driller submits a Well Completion Report to the DWR with a copy provided to the CPM. The Project owner shall submit to the CPM, together with the Well Completion Report, a copy of well drilling logs, ***any*** water quality analyses, and any inspection reports.

D. During well construction and for the operational life of the well, the Project owner shall submit two (2) copies each to the CPM of any proposed well construction or operation permit changes within ten (10) days of submittal to or receipt from the County of Riverside.

E. No later than fifteen (15) days after ***removal of drilling mud from the site,*** ~~completion of the onsite groundwater production wells,~~ the Project owner shall submit documentation to the CPM, and the CRBRWQCB that ***all drilling mud was completely removed and disposed at a disposal facility licensed to accept this material in compliance with 23 CCR section 2511(g)(1).*** ~~well drilling activities were conducted in compliance with Title 23, California Code of Regulations, Chapter 15, Discharges of Hazardous Wastes to Land, (23 CCR, sections 2510 et seq.) requirements and that any onsite drilling sumps used for Project drilling activities were removed in compliance with 23 CCR section 2511(c).~~

CONDITION OF CERTIFICATION SOIL&WATER- 6; Verification

Genesis has modified the verification to this condition because the WDRs do not apply to the stormwater management features constructed at the site (e.g., to stormwater detention basins); therefore, reference to stormwater discharge has been deleted to avoid potential confusion.

Verification: No later than sixty (60) days prior to any waste~~water or storm water~~ discharge or use of land treatment units, the Project owner shall provide documentation to the CPM, with copies to the CRBWQCB, demonstrating compliance with the WDRs established in Appendices ***B,*** C, ***and*** D~~, and E~~. Any changes to the design, construction, or operation of the evaporation basins, treatment units, or ***associated*** storm water system shall be requested in

writing to the CPM, with copies to the CRBWQCB, and approved by the CPM, in consultation with the CRBWQCB, prior to initiation of any changes. The Project owner shall provide to the CPM, with copies to the CRBWQCB, all monitoring reports required by the WDRs, and fully explain any violations, exceedances, enforcement actions, or corrective actions related to construction or operation of the evaporation basins, treatment units, or storm water system.

CONDITION OF CERTIFICATION SOIL&WATER- 8; Verification

Genesis request the verification to this condition be modified for clarity.

> **Verification:** The Project owner shall submit a Revised Project Drainage Report with the 30 percent Grading and Drainage Plans to the CPM for their review and comments ***a minimum of*** sixty (60) days before project mobilization. The owner will address comments provided by the CPM until approval of the report is issued. All comments and concepts presented in the approved Revised Project Drainage Report with the 30 percent Grading and Drainage Plans will be included in the final Grading and Drainage Plans.

CONDITION OF CERTIFICATION SOIL&WATER- 11; Verification

Genesis proposes the following modification for clarity.

> **Verification:** The required information and criteria shall be incorporated into the Grading and Drainage Plans and with all subsequent submittals as required in **SOIL&WATER-8** through **SOIL&WATER-10**. ***The drainage report associated with the linears identified in "I" above may be submitted separately from the site Grading and Drainage Plans.*** The Project owner will update and modify the design as necessary to obtain CPM approval.

MITIGATION OF COLORADO RIVER IMPACTS

CONDITION OF CERTIFICATION SOIL&WATER-15

Genesis requests that this condition be deleted for the reasons articulated above that the GSEP does not impact the Colorado River.

Two methods have been proposed by the US Bureau of Reclamation, the USGS and the Colorado River Board to assess whether a project will require an

entitlement to Colorado River water in order to pump groundwater. They include the Accounting Surface methodology (USGS, 2008) and the Aquifer Depletion Modeling methodology (Leake, et al., 2008). Sufficient data exist to demonstrate that the Project will not pump Colorado River water or require an entitlement under either of these two methods. This conclusion is supported by the following:

- Four modeling studies were completed to assess the impacts of groundwater pumping in the CVGB. These studies included modeling for the Project (WPAR, 2010), for the Palen Solar Project (AECOM, 2010), for the Eagle Crest Pumped Storage Project (GEI, 2009),and for the Chuckwalla and Ironwood State Prison Expansion (Engineering Science, 1990), and each supported the conclusion that groundwater levels will not fall below the Bureau of Reclamation's proposed Colorado River Accounting Surface as a result of Project or cumulative pumping. Slight differences in modeling results from the above studies are related to differences in the methodology applied; however, in each case the applied methodology appears to meet the standard of care for that particular application and supports the same conclusion.
- Twenty years of groundwater monitoring in the vicinity of the Chuckwalla Valley and Ironwood State Prisons indicate that groundwater levels have stabilized above the Accounting Surface in response to pumping at the prisons.
- USGS (Leake, et al., 2008) modeled theoretical depletion of the Colorado River by pumping in various locations throughout the CVGB. Depletion is defined as the sum of decreased inflow from the aquifer to the river, and increased outflow from the river to the aquifer. The study shows that most of the CVGB, including the site, is located outside of the area where pumping would deplete the Colorado River, even if pumping were to continue for 100 years.

There is therefore no technical basis for the supposition that the Project will need to obtain an entitlement to pump Colorado River water. In addition, the requirement that mitigation proceed on the assumption that the project is pumping Colorado River water simply because the basin within which the project is located has a potential indirect hydrologic connection with the Colorado River sets a precedent that is contrary to existing LORS, specifically California groundwater rights law, which does not require that pumpers of groundwater outside the floodplains of rivers obtain entitlements for surface water diversion. This interpretation is supported by the CEC's conclusion in the Blythe Energy Project II, siting case, which reads in part:

> "The Commission finds that Palo Verde mesa groundwater and Colorado River water are legally distinct. The overland owner has rights under California law to use groundwater. Other than the few cases of underflow, the USBR has not asserted jurisdiction to directly regulate groundwater

use from wells that are known to be in aquifers that are recharged by Colorado River water." (CEC, 2005).

Predicted changes in underflow from the CVGB to the PVMGB as a result of Project pumping are discussed in the Groundwater Resources Investigation completed for the project (WPAR, 2010). Modeling conducted as part of this study indicates a relatively modest reduction in underflow that increases from 10 AFY after three years to 319 AFY at the end of the Project life. This reduction in underflow will slightly effect the water budget for the PVMGB. and could result in groundwater being taken out of storage and/or possibly a "depletion" of Colorado River water as defined by the USGS model. The extent of these effects in the PVMGB cannot be reliably predicted; however, it may be concluded that the nature and magnitude of the changes will not result in adverse impacts to wells or lead to a requirement that additional entitlements be obtained. This interpretation is supported by the CEC's conclusion in the Blythe Energy Project II siting case regarding additional recharge of Colorado River water induced by pumping of groundwater for that project, which reads in part:

> "With the measurement methods employed on the River, the recharge water volume is not only insignificant, it is undetectable by measurement, even though it is actually happening according to physical laws of hydrologic recharge."

Based on this information, the applicant contends that the proposed use of groundwater does not significantly impact Colorado River flows or violate any federal law or policy, and the applicant therefore recommends deleting Soil and Water COC-15 as written below. If the Committee does not agree and elects to impose a condition regarding Colorado River, we suggest the Committee rely on Soil and Water 19, as revised below, to calculate the Project's theoretical effect on the Colorado River flow.

CONDITION OF CERTIFICATION SOIL&WATER-17

GROUND SUBSIDENCE MONITORING AND ACTION PLAN

SOIL&WATER–17 ***If the project utilizes wet cooling,*** ~~O~~***o***ne monument monitoring station per production well or a minimum of three stations shall be constructed to measure potential inelastic subsidence that may alter surface characteristics of the Chuckwalla Valley near the proposed production wells. The Project owner shall:

A. Prepare and submit a Subsidence Monitoring Plan (SMP), including all calculations and assumptions. The plan shall include the following elements:

   1. Construction diagrams of the proposed monument monitoring station including size and description, planned depth, measuring points, and protection measures;

2. Map depicting locations (minimum of three) of the planned monument monitoring stations;

3. Monitoring program that includes monitoring frequency, thresholds of significance, reporting format.

B. Prepare quarterly reports commencing three (3) months following commencement of groundwater production during construction and operations.

1. The reports will include presentation and interpretation of the data collected including comparison to the thresholds developed in Item C.

C. Prepare a Mitigation Action Plan that will detail the following:

1. Thresholds of significance for implementation of proposed action plan;

a. Any subsidence that may occur will not be allowed to damage existing structures either on or off the site or alter the appearance or use of the structure;

b. Any subsidence that may occur will not be allowed to alter the natural drainage patterns or permit the formation of playas or lakes to form;

c. Any subsidence that violates (a) or (b) will result in the Project owner to investigate the need to ~~immediately~~ reduce/cease pumping until the cause is interpreted subsidence caused by project pumping abates and the structures and/or drainage patterns are stabilized and corrected.

Rationale: Immediate cessation of pumping is unduly burdensome. We recommend that a period of at 3 months be designated for assessment.

2. Action Plan that details proposed actions by the applicant in the event thresholds are achieved during the monitoring program

The applicant will be required to submit the Ground Subsidence Monitoring and Action Plan that is prepared by an Engineering Geologist registered in the State of California thirty (30) days prior to the start of extraction of groundwater for construction or operation.

CONDITION OF CERTIFICATION SOIL&WATER-19

As described above, Genesis believes the GSEP will not extract Colorado River water and will not have any significant impact on the Colorado River downstream users. Genesis believes that the Committee would be setting horrible precedent in the regulation under CEQA of a water right that is articulated in sound California groundwater law and complies with the Law of the River. However, if

the Committee does not agree and elects to impose a condition regarding Colorado River, we suggest the Committee reject Staff's condition and consider these modifications, which include a specific threshold of significance. We believe that modeling of 225 AFY will show no significant impact to the downstream users of Colorado River water. The basis for this proposed threshold of significance is the aquifer depletion modeling study published by the USGS (Leake, et al., 2008), which indicates the GSEP is located outside the area where groundwater pumping is predicted to cause Colorado River depletion based on applicable aquifer properties in the eastern Chuckwalla Valley. Because this study assumed a substantially longer pumping period than the GSEP (100 years) and a pumping rate of 1200 AFY, a threshold of significance of 225 AFY (less than 20 percent of the modeled rate) is considered to be a conservative threshold.

SOIL&WATER-19 ***If the Project will use 225 acre feet per year or more of groundwater for operations t*** ~~T~~he Project owner ~~may choose to refine the~~ ***shall develop a calculation*** ~~estimates~~ of ~~the amount of subsurface water flowing from the~~ ***theoretical*** Colorado River ***water depletion*** due to project pumping ***that can be*** used ***to form the basis of a Water Conservation Offset Program for mitigation of potential Colorado River impacts***. ~~for determining the appropriate volume of water for mitigation in accordance with **SOIL&WATER-15**~~. If the Project is wet cooled and modeling results show a decrease in impacts to the Colorado River, the project must still mitigate all of its cooling water use as outlined in **SOIL&WATER-*~~18~~15***.

~~If the Project owner decides to refine these estimates, it shall conduct~~ ***This calculation shall be based on*** an analysis of the Project's effect on the PVGB groundwater budget including an estimate of the decrease in underflow form the CVGB to the PVMGB and the decrease that may result in Colorado River water. The analysis shall include the following:

…….(Remainder of Condition unchanged)

Verification: Within thirty (30) days prior to mobilization of the proposed Project, the Project owner will submit to the CPM for their approval a report detailing the results of the modeling effort. The report will include the ***theoretical calculation of*** ~~estimated amount of subsurface water flowing from the~~ Colorado River ***water depletion*** due to project pumping. This ~~estimate~~ ***calculation*** shall be used for determining the appropriate volume of water for mitigation in ***a Colorado River Water Conservation and Offset Program whereby Colorado River water rights are procured and retired*** ~~accordance with **SOIL&WATER-15**~~.

CONDITION OF CERTIFICATION SOIL&WATER-20

SOIL&WATER-20 The Project owner shall submit a Groundwater Quality Monitoring and Reporting Plan to the CPM for review and approval. The Groundwater Quality Monitoring and Reporting Plan shall provide a description of the methodology for monitoring background and site groundwater levels and quality. The sampling required for the water quality monitoring program shall be implemented during groundwater level monitoring events using the well identified to comply with **SOIL&WATER-~~5~~*2***. Prior to project construction, monitoring shall commence to establish pre-construction groundwater quality conditions in the well***s*** proposed for the program***. Monitoring shall continue during*** ~~and shall include pre-construction,~~ construction~~,~~ and project operation ~~water use~~. The primary objectives for the water quality monitoring program are to identify potential changes in the existing water quality of the proposed water supply resulting from Project pumping, if any, in concert with Condition of Certification **SOIL&WATER–~~5~~*2*,** establish pre-construction and project related groundwater quality ***data*** ~~that can be quantitatively compared against observed from the project pumping well and near potentially impacted existing wells~~, and to avoid, minimize, or mitigate significant impacts to sensitive receptors (springs and groundwater-dependent vegetation, and groundwater supply users).

A. The Plan shall include a scaled map showing the site and vicinity, existing well locations, and proposed monitoring locations (both existing wells and new monitoring wells proposed for construction). Additional monitoring wells to be installed include wells required under Waste Discharge Requirements issued by the CRBRWQCB for the evaporation ponds and land treatment unit proposed for the project. The map shall also include relevant natural and man-made features (existing and proposed as part of this project). The plan also shall provide: (1) well construction information and borehole lithology for each existing well proposed for use as a monitoring well; (2) description of proposed drilling and well installation methods; (3) proposed monitoring well design; and, (4) schedule for completion of the work.

B. At least four (4) weeks prior to construction, a Well Monitoring Installation and Groundwater Quality Network Report shall be submitted to the CPM for review and approval in conjunction with Condition of Certification **SOIL&WATER-~~5~~*2***. The report shall include a scaled map showing the final monitoring well network. It shall document the drilling methods employed, provide individual well construction as-builds, borehole lithology recorded from the drill cuttings, well development, and well survey results. The well survey shall measure the location and elevation of the top of the well casing and reference point for all water level measurements,

and shall include the coordinate system and datum for the survey measurements.

C. As part of the monitoring well network development, all newly constructed monitoring wells shall be constructed consistent with State and Riverside County specifications.

D. At least four (4) weeks prior to use of any groundwater for construction, all groundwater quality and groundwater level monitoring data shall be reported to the CPM. The report shall include the following:

   a. An assessment of pre-project groundwater levels, a summary of available climatic information (monthly average temperature and rainfall records from the nearest weather station)~~, and a comparison and assessment of water level data relative to the assumptions and spatial trends simulated by the applicant's groundwater model~~.

Rationale for deletion: Since the numerical model is an impact-only model, pre-project water levels were not simulated.

   b. As assessment of pre-project groundwater quality with groundwater samples analyzed for TDS, chloride, nitrates, major cations and anions, ~~oxygen-18 and deuterium isotopes~~, and any other constituents the CPM deem critical in protecting existing water supply quality.

Rationale for deletion: Monitoring of oxygen 18 and deuterium has no direct relation to assessment of the potential groundwater impacts that are being monitored or assessing whether significant impacts are occurring. These stable isotopes are not regulated and changes in their concentrations do not constitute a water quality impact. Requiring analysis and evaluation of these stable isotopes is unduly burdensome and has not been required of any other project of which we are aware

   c. The data shall be tabulated, summarized, and submitted to the CPM. The data summary shall include the estimated range (minimum and maximum values), average, and median for each constituent analyzed. If a sufficient number of data points are available, the data shall also be analyzed using the Mann-Kendall test for trend at 90 percent confidence to assess whether pre-project water quality trends, if any, are statistically significant.

E. During project construction and during the first five years of project operations, the Project owner shall semi-annually monitor the quality of groundwater and changes in groundwater elevation and submit data semi-annually to the CPM. After five years of project operations, the frequency and scope of the monitoring program shall be reassessed by the CPM. The summary report***s*** shall document water level ***and quality*** monitoring methods, the water level ***and quality*** data, water level ***and quality*** plots ***and trend evaluation***, and a comparison between pre- and post-project start-up water level trends as itemized below. The report shall also include a summary of actual water use conditions, monthly climatic information (temperature and rainfall) from the nearest meteorological monitoring station, and a comparison and assessment of water level data relative to the assumptions and simulated spatial trends predicted by the applicant's groundwater model.

1. Groundwater samples from all wells in the monitoring well network shall be analyzed and reported semi-annually for TDS, chloride, nitrates, cations and anions~~, oxygen-18 and deuterium isotopes~~. ~~These analyses, and particularly the stable isotope data, can be useful for identifying water sources and assessing their contributions to the quality of water produced by wells.~~

Rationale for deletion: The applicant concurs that stable isotope data are useful for assessing the sources of groundwater and their contributions to the water samples; however, these data provide no information that documents or predicts significant water quality impacts, and cannot be interpreted in terms of Water Quality Objectives or thresholds of significance. As such, monitoring of oxygen 18 and deuterium requiring analysis and evaluation of these stable isotopes is unduly burdensome and has not been required of any other project of which we are aware.

2. For analysis purposes, pre-project water quality shall be defined by samples collected prior to project construction as specified above, and compliance data shall be defined by samples collected after the construction start date. The compliance data shall be analyzed for both trends and for contrast with the pre-project data.

3. Trends shall be analyzed using the Mann-Kendall test for trend at the 90 percent confidence***, once a statistically significant number of sample data are available***. Trends in the compliance data shall be compared and contrasted to pre-project trends, if any.

4. The contrast between pre-project and compliance mean or median concentrations shall be compared using an Analysis of Variance (ANOVA) or other appropriate statistical method approved by the RWQCB for evaluation of water quality impacts. A parametric ANOVA (for example, an F-test) can be conducted on the two data sets if the residuals between observed and expected values are normally distributed and have equal variance, or the data can be transformed to an approximately normal distribution. If the data cannot be represented by a normal distribution, then a nonparametric ANOVA shall be conducted (for example, the Kruskal-Wallis test). If a statistically significant difference is identified at 90 percent confidence between the two data sets, the monitoring data are inconsistent with random differences between the pre-project and baseline data indicating a ~~significant~~ water quality impact from project pumping may be occurring.

Rationale for deletion: A statistically significant difference in water quality does not necessarily indicate that thresholds of significance for water quality impacts are being exceeded as indicated under number 5 below.

5. If compliance data indicate that the water supply quality has deteriorated (exceeds pre-project constituent concentrations in TDS, sodium, chloride, or other constituents identified as part of the monitoring plan and applicable Water Quality Objectives are exceeded for the applicable beneficial uses of the water supply) for three consecutive years, the Project owner shall provide treatment or a new water supply to either meet or exceed pre-project water quality conditions to any impacted water supply wells.

Verification: The Project owner shall complete the following:

At least six (6) weeks prior to the start of construction activities, a Groundwater Level and Quality Monitoring and Reporting Plan shall be submitted to the CPM for review and approval ~~before completion of Condition of Certification **SOIL&WATER-2**~~.

GSEP requests the following minor corrections to

Water Discharge Requirements (Appendix B)

Appendix B; Page 1

1. These WDRs regulate the Facility's ~~three~~ ***six*** evaporation ponds and the LTU. The evaporation ponds are designated as Class II Surface Impoundments

Waste Management Units (WMU) and must meet the requirements of the California Code of Regulations (CCRs), Title 27, CCR §20200 et seq. The boundaries of the Genesis Solar Power Project are shown on Figure 2, as incorporated here in and made a part of these WDRs.

Appendix B; Page 2

The process to produce 125 MW of electrical power in each module is as follows:

a. …….

h. Evaporation Ponds (24 acres ***per unit, for a total of 48 acres***);

Appendix B; Page 3

1. Project cooling water blow down from each unit will be piped to lined, on-site evaporation ponds, which are designated as Class II Surface Impoundments. ***Three evaporation ponds are allocated to each unit for a total of six evaporation ponds.*** For safety and operational purposes, accumulated precipitated solids will be removed from the base of the evaporation ponds when they reach a depth of 3 feet. It is estimated that 3 feet of solids will accumulate approximately every 7 years when using groundwater containing 5,000 mg/l of total dissolved solids (TDS) as a water supply. Dewatered residues from the ponds will be sent to an appropriate off-site landfill for disposal. No off-site backup cooling water supply is planned at this time; the use of multiple on-site water supply wells and redundancy in the well equipment will provide an inherent backup in the event of outages affecting one of the on-site supply wells.

Appendix B; Page 11

41. The ***six*** 8-acre evaporation ponds ***(three per unit)*** have a proposed average design depth of 8 feet across each pond which incorporates:

Summary of Groundwater Groundwater Resources Impact Evaluations in Chuckwalla Valley Groundwater Basin

	Genesis Solar Energy Project [1]	GSEP Cumulative Impact Analysis [1]	Palen Solar Energy Project [2]	Eagle Crest Pumped Storage Project [3]	Chuckwalla Valley / Ironwood State Prison [4]	USGS Aquifer Depletion Model [5]
Model Description	Transient three-dimensional numerical superposition model of eastern CVGB.	Two-dimensional superposition calculation of drawdown in CVGB.	Transient two-dimensional numerical model of drawdown in CVGB.	Transient two-dimensional analytical spreadsheet model of drawdown in CVGB based on Taylor approximation of Theis Equation.	One-dimensional analytical distance-drawdown calculation using Jacob Method, followed by 20 years of groundwater level monitoring.	Steady state and transient two-dimensional numerical superposition model of Parker - Palo Verde - Cibola area to predict Colorado River contribution to groundwater extracted by pumping.
Supporting Data	Published data from CVGB; interpretation of 14 specific capacity and pumping tests; 7-day pumping test with multi-level observation wells to 550 feet; laboratory testing of hydraulic conductivity; and, two 3-day pumping tests and one 1-day pumping test on multi-completion well to 1800 feet.	Data derived from the studies compared in this analysis	Published data from CVGB, interpretation of specific capacity tests, single 72-hour pumping test performed on a former agricultural supply well completed to 758 feet. Utilized modified version of USGS Aquifer Depletion Model (Leake, et al., 2008).	Interpretation of published well lithologic logs and specific capacity tests; two 24-hour pumping tests conducted near Desert Center.	Pumping test with observation wells conducted at prison, 20 years of groundwater level monitoring data from NWIS.	Statistical analysis of transmissivity data from pumping tests conducted outside the CVGB on Younger and Older Alluvium.
Layering	13 layers including unconfined and confined layers; base elevation variable using actual bedrock topography from geophysical modeling.	--	Single flat layer, 500 feet thick.	Single flat layer, 300 feet thick.	Single layer.	Single flat layer, 500 feet thick.
Aquifer Parameters	Individual layers unconfined (S=0.15) and confined (S=5 E-05 to 9.5 E-07); Calibrated Kx=0.0002 to 15 ft/day for aquitard and aquifer layers; T=14,000 ft^2/day for pumped aquifer.		Unconfined (S=0.20); T=1,000 ft^2/day in majority of Eastern CVGB, including GSEP; T=6,300 ft^2/day in easternmost CVGB and near Desert Center.	Unconfined (S=0.05); T=37,500 ft^2/day.	Confined; T=6,684 ft^2/day.	Unconfined (S=0.20); T=6,300 ft^2/day. (Higher modeled T values that were regionally considered are not applicable to the eastern CVGB based on review of available aquifer test data for this area)

	Genesis Solar Energy Project [1]	GSEP Cumulative Impact Analysis [1]	Palen Solar Energy Project [2]	Eagle Crest Pumped Storage Project [3]	Chuckwalla Valley / Ironwood State Prison [4]	USGS Aquifer Depletion Model [5]
Boundary Conditions	No Flow at bedrock interface; General Head Boundaries at alluvial boundaries.	--	No Flow only	Image wells were used to simulate no-flow boundaries.	None	No Flow only
Simulated Wells	Single well completed from 800 to 1,800 feet bgs.	Superposition of drawdown from all modeled pumping wells used in other studies.	Single well completed to 700 feet bgs	Pumping centroid of three wells completed to 500 feet bgs	Simulated pumping from the primary prison water supply well.	Single wells pumping at 1200 AFY were simulated at various locations to create a dataset of aquifer depletion that could be contoured.
Recharge	Not considered.	--	Not considered.	Not considered.	Not considered.	Not considered.
Calibration	Multi-level pumping test with observation wells.	--	None	Response to long term pumping by historical water levels in one well near Desert Center.	None	None
Validation	Drawdown from pumping test at prison simulated to within 15% to 25%.	--	None	None	20 years of groundwater monitoring data indicate that drawdown has stabilized.	None
Sensitivity Analysis	Kx (x 0.1, 0.36 and 10) Kz (x 0.1 and 10) GHB Conductance (x 0.1 and 10)	--	T was varied from 1,000 to 24,000 ft2/d; S was varied from 0.05 to 0.2. 17 scenarios were modeled to gain perspective on possible outcomes.	K decreased by approximately 50%.	None	None
Predicted/Actual Drawdown Effects in Eastern CVGB	10 ft at GSEP pumping well; 5 feet drawdown limited to within less than 1 mile of project wells.	10 ft close to pumping well; 5 ft limited to within 4 miles west, 7 miles south and around the prison. Analysis incorporates conservative over-prediction of existing and cumulative project pumping impacts.	Cumulative drawdown of 20 ft at GSEP pumping well, 5 ft limited to a distance of 3 miles from GSEP. Drawdown near the GSEP is over predicted by applying transmissivity that is one order of magnitude lower than measured values.	4 to 6 feet from project and cumulative pumping after an assumed 50 year pumping period.	Actual drawdown from groundwater monitoring is 5 ft at 1.5 miles from pumping prison wells	Drawdown not predicted.
Predicted Drawdown at Water Table	0.08 ft at water table above GSEP pumping well	Single layer representing pumped aquifer, predictions do not represent drawdown at water table.	Single layer representing pumped aquifer, predictions do not represent drawdown at water table.	Single layer representing pumped aquifer in western CVGB, predictions represent drawdown at water table in that part of the basin.	Single layer representing pumped aquifer, predictions do not represent drawdown at water table.	--

	Genesis Solar Energy Project [1]	GSEP Cumulative Impact Analysis [1]	Palen Solar Energy Project [2]	Eagle Crest Pumped Storage Project [3]	Chuckwalla Valley / Ironwood State Prison [4]	USGS Aquifer Depletion Model [5]
Proposed Monitoring Program	Proposed water level and water quality monitoring program including on site and off-site wells in eastern CVGB.	--	Proposed water level and water quality monitoring program including wells in central CVGB.	Proposed water level monitoring including wells in western CVGB.	Ongoing monitoring of water levels near the prison	None
Predicted Underflow Changes	Decreased outflow from CVGB to PVMGB -- 10 AFY after 3 years; 319 AFY at end of project life.	--	Not predicted	Changes in inflow from Pinto and Orocopia Valley Basins were calculated based on changes in gradient and saturated cross section.	Not predicted	No Colorado River depletion predicted after 100 years of pumping in most of CVGB .
Conclusions Regarding Accounting Surface	**Groundwater levels will remain above the Accounting Surface for the 30-year project duration.**	**Groundwater levels will remain above the Accounting Surface under existing and future cumulative pumping scenarios.**	**Groundwater levels will remain above the Accounting Surface under existing and future cumulative pumping scenarios.**	**Groundwater levels will remain above the Accounting Surface under existing and future cumulative 50-year pumping scenarios.**	**20 years of groundwater monitoring data indicate that groundwater levels have stabilized above the Accounting Surface. Prison groundwater demand is expected to decrease.**	--
Conclusions Regarding Colorado River Depletion	**No Colorado River depletion, even after 100 years of pumping.**	--	**No Colorado River depletion, even after 100 years of pumping.**	**No Colorado River depletion, even after 100 years of pumping.**	**Between 1 and 5 percent after 100 years of pumping.**	**No Colorado River depletion throughout most of the CVGB (the area is outside the lowest contoured interval), even after 100 years of pumping.**

Notes:

1. *Groundwater Resources Investigation, Genesis Solar Energy Project,* prepared by WorleyParsons, dated January 18, 2010.
2. *Palen Solar Power Project Data Responses, Set 1 (#1-280),* prepared by AECOM Environment, dated January 22, 2010.
3. *Eagle Mountain Pumped Storage Project – Revised Groundwater Supply Pumping Effects*, prepared by GEI Consultants, date October 23, 2009.
4. *Water and Wastewater Facilities Engineering Study, California State Prison – Chuckawalla Valley*, prepared by Engineering Science, dated September 1990.
5. *Use of superposition models to simulate possible depletion of Colorado River water by ground-water withdrawal: U.S. Geological Survey Scientific Investigations Report 2008-5189*, prepared by Leake, et al., 2008. Depletion refers to the sum of decreased inflow from the aquifer into Colorado River and increased outflow from the river into the aquifer system.

HMCG
Harvey Meyerhoff Consulting Group

Jeffrey G. Harvey, Ph.D.
Principal & Senior Scientist

Dr. Jeff Harvey has more than 25 years experience as a consultant in environmental planning and reporting pursuant to requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), specializing in water resources, power generation, and mining. Reports have been prepared for local, state, and federal government agencies, and private developers. For the past decade he has been deeply involved in complex water, power, and environmental restoration projects in the southern California desert region, with a focus on the Colorado River, regional groundwater, the All American and Coachella canals, and the Salton Sea.

Education

- Ph.D. Geography – Emphasis in *Hydrology and Water Resources, Environmental Law and Policy, Natural Resources Management, and Impact Assessment.* UCLA, 1994
- Master of Arts, Geography – Emphasis in *Environmental Planning, Water Resources Development, and Impact Analysis.* CSU, Chico, 1983
- Bachelor of Arts, Geography – Emphasis in *Physical Geography.* CSU, Chico, 1981

Professional Experience

- Harvey Meyerhoff Consulting Group, Principal and Senior Scientist, 2005-present
- Greystone Environmental Consultants, California General Manager, 1994-2005
- Research Associates, Principal and Project Manager, 1986-1994
- Eco-Analysts, Project Manager, 1981-1986

Relevant Experience

- Eagle Mountain Pumped Storage Hydroelectric Project, *Project Director*
- Coachella Canal Lining Project, *Environmental Coordinator*
- IID / SDCWA Water Transfer; Quantification Settlement Agreement (QSA); Lower Colorado River Multi-Species Conservation Program; and Salton Sea Ecosystem Restoration Program; *Transfer Program Consultant (to SDCWA)*
- Blythe Energy Project, Phase 1 and 2, *Project Manager for Environmental Permitting*
- Regional Water Facilities Master Plan Program EIR, San Diego County Water Authority, *Project Manager*
- San Joaquin Valley Drainage Program, *Principal Investigator, Natural Heritage Institute (under contract to Bureau of Reclamation)*

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF Scott A Busa**

I, Scott A Busa, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC, as a Director of Business Development.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Traffic and Transportation for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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, FL on 16 JUNE, 2010.

Scott A Busa

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening testimony relating to the Traffic and Transportation for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 17, 2010.

P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** JENNIFER MARCHEK

I, Jennifer Marchek, declare as follows:

1. I am presently employed by WorleyParsons, as a Senior Engineer.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Traffic and Transportation for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 16, 2010.

Jennifer Marchek

Jennifer Marchek

GENESIS SOLAR ENERGY PROJECT
TRAFFIC AND TRANSPORTATION
REVISED OPENING TESTIMONY

I. Name: Scott A Busa, P. Duane McCloud and Jennifer Marchek

II. Purpose:

Our Revised Opening Testimony addresses the subject of Traffic and Transportation associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

Scott A. Busa: I am presently employed at NextEra Energy Resources, and have been for the past 21 years and am presently a Director with that organization. I have over 23 years of experience development, construction, and operation of Electrical Utilities and Power Generation. I prepared or assisted in the preparation of the Traffic and Transportation 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 Traffic and Transportation 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.

Jennifer Marchek: I am presently employed at WorleyParsons, and have been for the past two years and am presently a Senior Engineer with that organization. I have a B.S. Degree in Chemical Engineering and I have over 5 years of experience in the field of Environmental Impacts of Traffic and Transportation. I prepared or assisted in the preparation of the Traffic and Transportation 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 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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 5.11.
Exhibit 41	**Report of Conversation Regarding Caltrans Traffic Counts for Interstate I-10 for 2004. 2008, 2012, AFC Table 5.11-2 (Between Mike Monasmith and Tricia Bernhardt),** dated February 25, 2010, and docketed on February 26, 2010.
Exhibit 51	**Genesis Solar LLC's Proposed Conditions of Certification for Other Resource Areas,** dated April 30, 2010, and docketed on May 3, 2010.

V. Opinion and Conclusions

We have reviewed the Traffic and Transportation section of the Revised Staff Assessment (RSA) and agree that with incorporation of the Conditions of Certification the GSEP will not result in significant Traffic and Transportation impacts and will comply with all Traffic related laws, ordinances, regulations and standards (LORS).

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening testimony relating to the Transmission Line Safety and Nuisance for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 17, 2010.

P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF Scott A Busa**

I, Scott A Busa, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC, as a Director of Business Development.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Transmission Line Safety and Nuisance for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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, FL on 16 JUNE, 2010.

Scott A Busa

GENESIS SOLAR ENERGY PROJECT
TRANSMISSION LINE SAFETY AND NUISANCE
REVISED OPENING TESTIMONY

I. Name: P. Duane McCloud, Scott A. Busa and Steven Richards

II. Purpose:

Our Revised Opening Testimony addresses the subject of the Transmission Line Safety and Nuisance associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

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 Transmission Line Safety and Nuisance 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.

Scott A. Busa: I am presently employed at NextEra Energy Resources, and have been for the past 21 years and am presently a Director with that organization. I have over 23 years of experience development, construction, and operation of Electrical Utilities and Power Generation. I prepared or assisted in the preparation of the Transmission Line Safety and Nuisance 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.

Steven Richards: I am presently employed at WorleyParsons, and have been for the past two and a half years and am presently an associate electrical engineer with that organization. I have a Bachelors Degree in Electrical Engineering and I have over two years of experience in the field of electrical engineering. I prepared or assisted in the preparation of the Transmission Line Safety and Nuisance 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 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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 4.2.

V. Opinion and Conclusions

We have reviewed the Transmission Line Safety and Nuisance section of the Revised Staff Assessment (RSA) and agree that with incorporation of the Conditions of Certification, the Transmission Line Safety and Nuisance section of the Project will not result in significant impacts and will comply with all laws, ordinances, regulations and standards (LORS). We are requesting a minor modification to Condition of Certification **TLSN-2** to clarify the timing and to place timing of compliance requirements into the Verification rather than the Condition language.

TLSN-2 The project owner shall use a qualified individual to measure the strengths of the electric and magnetic fields from the line at the points of maximum intensity along the route for which the applicant provided specific estimates. The measurements shall be made before and after energization according to the American National Standard Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) standard procedures. ~~These measurements shall be completed no later than 6 months after the start of operations.~~

Verification: ***No later than six months after start of project operation, the*** **project owner** shall file copies of the pre-and post-energization measurements with the CPM within 60 days after completion of the measurements.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Kenneth Stein

I, Kenneth Stein, declare as follows:

1. I am presently employed by NextEra Energy Resourcess, LLC, as an Environmental and Permitting Manager.

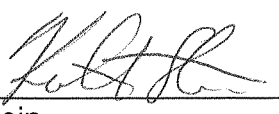
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening 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 revised opening 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 revised opening 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 Ft. Lauderdale, FL on June 17, 2010.



Kenneth Stein

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF Scott A Busa**

I, Scott A Busa, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC, as a Director of Business Development.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening 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 revised opening 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 revised opening 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, FL on 16 JUNE, 2010.

Scott A Busa

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF Lee Roger Anderson**

I, Lee Roger Anderson, declare as follows:

1. I am presently self-employed as a Senior Visual Analyst.

2. A copy of my professional qualifications and experience is included herewith (Attachment to Revised Opening Testimony) and is incorporated by reference in this Declaration.

3. I prepared the attached testimony relating to Visual Resources for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08, dated August 2009, and docketed on August 31, 2009, Section 5.10).

4. It is my professional opinion that the attached prepared 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 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 Medford, Oregon on June 18, 2010.

Lee Roger Anderson

Lee Roger Anderson

GENESIS SOLAR ENERGY PROJECT
VISUAL RESOURCES
REVISED OPENING TESTIMONY

I. Name: Kenneth Stein, Scott A. Busa, and Lee Roger Anderson

II. Purpose:

Our Revised Opening Testimony addresses the subject of Visual Resources associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

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 Visual 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.

Scott A. Busa: I am presently employed at NextEra Energy Resources, and have been for the past 21 years and am presently a Director with that organization. I have over 23 years of experience development, construction, and operation of Electrical Utilities and Power Generation. I prepared or assisted in the preparation of the Visual 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.

Lee Roger Anderson: I am presently self-employed and have been for the past 29 years and am presently the sole proprietor of my professional practice. I have a Master of Landscape Architecture and Bachelor of Science Degree in Landscape Architecture and I have over 42 years and 37 years of professional experience in the fields of landscape architecture and visual resource management, respectively. I prepared the visual resources section of the AFC but was not involved with the post-filing information, data responses, and supplemental filings for this AFC. A detailed description of my qualifications is contained in the attached resume.

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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 5.10.
Exhibit 3	**Data Adequacy Supplement,** dated October 2009, and docketed on October 12, 2009.
Exhibit 12	**Genesis Solar, LLC's Informational Hearing & Site Visit Presentation,** dated December 10, 2009, and docketed on December 18, 2009.
Exhibit 21	**Data Request Responses to Set 1B, 228 through 292,** dated January 11, 2010, and docketed on January 11, 2010, Responses (283-292).
Exhibit 51	**Genesis Solar LLC's Proposed Conditions of Certification for Other Resource Areas,** dated April 30, 2010, and docketed on May 3, 2010.

V. Opinion and Conclusions

VISUAL IMPACTS ARE NOT SIGNIFICANT

Staff concludes that the project DOES NOT result in direct or indirect significant project impacts but concludes that the project results in a significant unmitigatable cumulative impact to the California Desert. We disagree that the GSEP will result in significant cumulative impacts for the following reasons.

The GSEP will only be slightly visible from any viewpoint that the general population could access. The key observation points for most of the proposed solar projects in the California Desert will be from I-10. The California Desert

Conservation Area, the area that encompasses most of the proposed solar projects in southeastern California, is over 25 million acres. Even if 10 solar projects were constructed at 2000 acres each, the 20,000 acres of solar panels, troughs, mirrors and other facilities would change the visual environment of less than 1 percent of this desert.

Additionally, the projects are not adjacent to each other, providing an I-10 traveler many miles of desert scenery without seeing a solar project. Therefore, the Genesis Solar Energy Project will not contribute to a significant cumulative visual impact.

CONDITION OF CERTIFICATION VIS-1, Verification

Genesis requests the minor change to acknowledge and accommodate the timing of color selection relative to the bid process. Also due to the fact that the colors and finishes of interest would be unperceivable from the KOP's, the photographic submission wording was modified to something more applicable.

> **Verification** At least ***30*** ~~90~~ days prior to specifying to the vendor the colors and finishes of the first structures or buildings that are surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval and simultaneously to Riverside County for review and comment. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval.
>
> ~~Prior to the start of commercial operation~~, ***Upon the completion of construction of specific facility structures,*** the project owner shall notify the CPM that surface treatment of ~~all listed~~ ***that*** structure ***or*** building has been completed and ***is*** ready for inspection and shall submit ~~to each~~ one set of electronic color photographs ***of the structure***. ~~from the same key observation points identified in (d) above.~~ The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a): the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

CONDITION OF CERTIFICATION VIS-2, Verification

Genesis requests the following flexibility in timing be added to the condition due to the short timing of selection and deployment of temporary lighting.

> **Verification:** At least 90 days prior to ordering any permanent exterior lighting or ***30 days prior to*** temporary construction lighting, the project owner shall contact the CPM to discuss the documentation required in the lighting mitigation plan. At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval and simultaneously to the County of Riverside for review and comment a lighting mitigation plan. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM.
>
> The project owner shall not order any ***permanent*** exterior lighting until receiving CPM approval of the lighting mitigation plan.

CONDITION OF CERTIFICATION VIS-3

Genesis has investigated the possibility of setting the transmission line back ½ mile from I-10. However, the transmission line will cross I-10 and will be visible even if the transmission line is set back. The proposed corridor, as it is now planned, was chosen carefully to avoid biological, cultural and land use concerns and it is not feasible to move the transmission line at this time and still meet the project objectives. In addition Genesis will review with the CPM as part of compliance options for coating monopole type towers that result in reduced visual impact comparable to or less than lattice-style towers without the additional footprint impact of lattice towers. Therefore, Genesis requests this Condition of Certification be deleted.

CONDITION OF CERTIFICATION VIS-4, Verification

Genesis requests the following modification to the Verification to clarify that the condition applies to the fence only.

> **Verification:** At least 90 days prior to start of construction ***of the fence***, the project owner shall present to the CPM a ~~glare mitigation~~ plan describing the fencing measures and materials proposed for mitigating off-site glare. The plan shall include color samples of slatted fencing proposed for use. If the CPM determine that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM.
>
> The project owner shall not begin construction ***of the fence*** until receiving CPM approval of the revised plan.

CONDITION OF CERTIFICATION VIS-6

Genesis requests the following change be incorporated. The qualifier of "possible" implies an action that would be taken without regard to other impacts.

VIS-6 To the extent ~~possible~~ ***practicable***, the project owner will use applicable design principles to reduce the visual contrast of the project with the characteristic landscape. These include proper siting and location; reduction of visibility; repetition of form, line, color (see VIS-1) and texture of the landscape; and reduction of unnecessary disturbance. Design strategies to address these fundamentals will be based on the following factors as applicable and feasible in this case:

Lee Roger Anderson
Senior Visual Analyst

Education

Master of Landscape Architecture
Iowa State University, Ames, Iowa

B.S. in Landscape Architecture
Iowa State University, Ames, Iowa

Relevant Experience

Lee Roger Anderson has more than 37 years experience in visual resource analysis, visual resource management, and environmental planning, and more than 42 years experience in site planning, master planning, recreation planning, and landscape architecture. In addition he possesses vast experience supporting:

- Applications For Certification, (AFC); Visual Resources
- Environmental Impact Reports, (EIR); Visual Resources
- Environmental Impact Statements, (EIS); Visual Resources

He has also served a host of regulatory agencies including, but not limited to: Federal Energy Regulatory Commission (FERC); USDA Forest Service; USDI Bureau of Land Management; California Public Utilities Commission (CPUC); and California Energy Commission (CEC).

Representative Projects

- Genesis Solar Energy Project AFC #09-AFC-8. Visual resource assessment and computerized visual simulations for new solar farm on 1,800 acres. Riverside County, CA.
- Abengoa Mojave Solar Power Plant Project AFC #09-AFC-5. Visual resource assessment and computerized visual simulations for new solar farm on 1,765 acre. San Bernardino Co, CA.
- Alta Oak Creek Wind Energy Project EIR. Visual resource assessment and computerized visual simulations for 350 new wind turbine generators. Kern County, CA.
- Pacific Wind Energy Project EIR. Visual resource assessment for up to 250 new wind turbine generators. Kern County, CA.

- Tehachapi Renewable Transmission Project, Segments 4-11 EIR/EIS. (TRTP 4-11) Visual resource assessment and computerized visual simulations. Tehachapi Wind Resource Area to Mira Loma Substation. Kern, Los Angeles, and San Bernardino Counties, CA.
- Antelope Transmission Project, Segments 2 & 3 EIR (TRTP 2-3). Visual resource assessment and computerized visual simulations. Kern and Los Angeles Counties, CA.
- Antelope-Pardee 500kV Transmission Project EIR/EIS (TRTP 1). Visual resource assessment and computerized visual simulations. Lancaster to Santa Clarita, LA County, CA.
- Riverway Substation Project visual resource assessment and computerized visual simulations for a Mitigated Negative Declaration. Visalia, Tulare County, CA.
- Lompoc Wind Energy Project EIR. Visual resource assessment and computerized visual simulations for 90 new wind turbine generators. Santa Barbara County, CA.
- Dillon Wind Energy Project EIR. Visual resource assessment and computerized visual simulations for 45 new wind turbine generators. Palm Springs and Riverside County, CA.
- Liberty XXIII Renewable Energy Power Plant EIR. Visual resource assessment and computerized visual simulations for new bio-fuel power plant. City of Banning, CA.
- Lake Elsinore Advanced Pump Storage Transmission Project EIR (LEAPS). Visual resource assessment and computerized visual simulations. Orange County, CA.
- Amendment to CEC License for Blythe Energy Transmission Line Project. Land use study, visual resource assessment, visual simulations. Blythe to Julian Hinds, CA.
- Oil and Gas Environmental Impact Statement, Scenic Quality and Recreation Resources, with complete GIS Analysis, Los Padres National Forest, Santa Barbara, CA.
- AT&T Fiber Optic Cable Project, EA and Initial Study, at Shasta Lake National Recreation Area and in Castle Crags State Park, Shasta County, California.
- EIS & EIR for Celeron/All American and Getty Pipeline Projects, from Santa Barbara, CA to Freeport, TX., for California State Lands Commission and USDI-BLM.
- Construction monitoring and mitigation compliance monitoring of the All American Pipeline, in Los Padres NF and Gaviota St Park, Santa Barbara County, CA.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening 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 revised opening 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 revised opening 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 18, 2010.

Glen T. King

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening 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 revised opening 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 revised opening 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 16, 2010.

_____
Janine Forrest

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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.

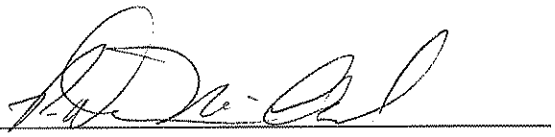
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening 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 revised opening 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 revised opening 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 June 17, 2010.



P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Kenneth Stein

I, Kenneth Stein, declare as follows:

1. I am presently employed by NextEra Energy Resourcess, 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 revised opening 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 revised opening 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 revised opening 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 Ft. Lauderdale, FL on June 17, 2010.

Kenneth Stein

GENESIS SOLAR ENERGY PROJECT
WASTE MANAGEMENT
REVISED OPENING TESTIMONY

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

II. Purpose:

Our Revised Opening Testimony addresses 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 SEGS III - IX, 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.

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. Exhibits

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

Exhibit 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009. Section 5.13.
Exhibit 11	**Data Requests Set 1A Responses 1 through 227,** dated December 14, 2009, and docketed on December 15, 2009, Responses 215 through 225.
Exhibit 12	**Genesis Solar, LLC's Informational Hearing & Site Visit Presentation,** dated December 10, 2009, and docketed on December 18, 2009.
Exhibit 51	**Genesis Solar LLC's Proposed Conditions of Certification for Other Resource Areas,** dated April 30, 2010, and docketed on May 3, 2010**.**

V. Opinion and Conclusions

Genesis Solar LLC, (Genesis) has reviewed the analysis and all conditions of certifications embodied in the Revised Staff Assessment and agree that with the modifications below the GSEP will not result in significant waste impacts and will

comply with all applicable waste-related laws, ordinances, regulations and standards (LORS).

CONDITION OF CERTIFICAITON WASTE-2

Genesis requests the following language be added for clarification.

WASTE-2 The project owner shall provide the resume of an experienced and qualified professional engineer or professional geologist, who shall be available for ~~additional characterization (if needed),~~ demolition, excavation, and grading activities, to the CPM for review and approval. The resume shall show experience in remedial investigation and feasibility studies.

The professional engineer or professional geologist shall be given authority by the project owner to oversee any earth moving activities that have the potential to disturb contaminated soil and impact public health, safety and the environment.

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

CONDITION OF CERTIFICATION WASTE-8

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

CONDITION OF CERTIFICATION WASTE-10

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

WASTE-10 ***The project owner shall document all releases and spills of HTF as described in Condition of Certification***

WASTE-11 and report only those that are 42 gallons or more, the CERCLA reportable quantity. Cleanup and temporary staging of HTF-contaminated soils shall be conducted in accordance with the approved Operation Waste Management Plan required in Condition of Certification of WASTE-9. The project owner shall sample HTF-contaminated soil from CERCLA reportable incidents involving 42 gallons or more in accordance with the United States Environmental Protection Agency's (USEPA) current version of "Test Methods for Evaluating Solid Waste" (SW-846). Samples shall be analyzed in accordance with USEPA Method 8015 or other method to be reviewed and approved by DTSC and the CPM.

The project owner shall notify the DTSC and CPM of spill results and whether the soil is considered hazardous or non-hazardous. HTF-contaminated soil that exceeds the hazardous waste levels must be disposed of in accordance with California Health and Safety Code (HSC) Section 25203. ~~The project owner shall submit to the CPM and DTSC for approval an assessment of whether the HTF-contaminated soil is considered hazardous or non-hazardous under state regulations. HTF-contaminated soil that exceeds the hazardous waste levels must be disposed of in accordance with California Health and Safety Code (HSC) Section 25203.~~ HTF-contaminated soil that does not exceed the hazardous waste levels may be discharged into the land treatment unit (LTU). For discharges into the LTU, the project owner shall comply with the Waste Discharge Requirements contained in the Soil & Water Resources section of this document.

~~The project owner shall document all releases and spills of HTF as described in Condition of Certification WASTE-11 and report only those that are 42 gallons or more, the CERCLA reportable quantity. Cleanup and temporary staging of HTF-contaminated soils shall be conducted in accordance with the approved Operation Waste Management Plan required in Condition of Certification of WASTE-9. The project owner shall sample HTF-contaminated soil from CERCLA reportable incidents involving 42 gallons or more in accordance with the United States Environmental Protection Agency's (USEPA) current version of "Test Methods for Evaluating Solid Waste" (SW-846). Samples shall be analyzed in accordance with USEPA Method 8015 or other method to be reviewed and approved by DTSC and the CPM.~~

If DTSC and the CPM ***concur with the project owner*** ~~*determine*~~ ***that*** the HTF-contaminated soil is considered hazardous it shall be disposed of in accordance with California Health and Safety Code

(HSC) Section 25203 and procedures outlined in the approved Operation Waste Management Plan required in Condition of Certification **WASTE-9** and reported to the CPM in accordance with Condition of Certification **WASTE-11**.

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

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

CONDITION OF CERTIFICATION WASTE-11

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

WASTE-11 The project owner shall ensure that ~~all~~ spills or releases of hazardous substances, hazardous materials or hazardous waste ***that are in excess of EPA's reportable quantities (RQ) that occur on the project property or related linear facilities during construction and on the property during operation***, are documented and cleaned up and that wastes generated from the release/spill are properly managed and disposed of, in accordance with all applicable federal, state, and local requirements. The project owner shall document management of all accidental spills and unauthorized releases of hazardous substances, hazardous materials, and hazardous wastes that are in excess of EPA's reportable quantities (RQ), that occur on the project property or related linear facilities during construction and on the property during operation. ~~The documentation shall include, at a minimum, the following information: location of release; date and time of release; reason for release; volume released; how release was managed and material cleaned up; amount of contaminated soil and/or cleanup wastes generated; if the release~~

~~was reported; to whom the release was reported; release corrective action and cleanup requirements placed by regulating agencies; level of cleanup achieved and actions taken to prevent a similar release or spill; and disposition of any hazardous wastes and/or contaminated soils and materials that may have been generated by the release.~~

Verification: A copy of the unauthorized release/spill documentation shall be provided to the CPM within 30 days of the date the release was discovered. ***The documentation shall include, at a minimum, the following information: location of release; date and time of release; reason for release; volume released; how release was managed and material cleaned up; amount of contaminated soil and/or cleanup wastes generated; if the release was reported; to whom the release was reported; release corrective action and cleanup requirements placed by regulating agencies; level of cleanup achieved and actions taken to prevent a similar release or spill; and*** *disposition of any hazardous* ***wastes and/or contaminated soils and materials that may have been generated by the release.***

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF Scott A Busa**

I, Scott A Busa, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC, as a Director of Business Development.

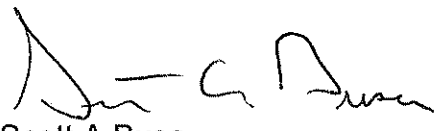
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Worker Safety for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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, FL on 16 JUNE, 2010.



Scott A Busa

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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.

1. I prepared the attached revised opening testimony relating to the Worker Safety for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

2. It is my professional opinion that the attached prepared revised opening testimony is valid and accurate with respect to issues that it addresses.

3. I am personally familiar with the facts and conclusions related in the attached prepared revised opening 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 June 17, 2010.

P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening testimony relating to Worker Safety for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 16, 2010.

Janine Forrest

GENESIS SOLAR ENERGY PROJECT
WORKER SAFETY
REVISED OPENING TESTIMONY

I. Name: Scott A Busa, P. Duane McCloud and Janine Forrest

II. Purpose:

Our Revised Opening Testimony addresses the subject of Worker Safety associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

Scott A. Busa: I am presently employed at NextEra Energy Resources, and have been for the past 21 years and am presently a Director with that organization. I have over 23 years of experience development, construction, and operation of Electrical Utilities and Power Generation. I prepared or assisted in the preparation of the Worker Safety 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 Worker Safety 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.

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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 5.14.
Exhibit 11	**Data Requests Set 1A Responses (1 through 227),** dated December 14, 2009, and docketed on December 15, 2009, Responses (226 through 227).
Exhibit 51	**Genesis Solar LLC's Proposed Conditions of Certification for Other Resource Areas,** dated April 30, 2010, and docketed on May 3, 2010.

V. Opinion and Conclusions

We have reviewed the Worker Safety section of the Revised Staff Assessment and agree that with incorporation of the minor modifications set forth below to the analysis and Conditions of Certification, the GSEP will not result in significant Worker Safety and Fire Protection impacts and will comply with all applicable laws, ordinances, regulations and standards (LORS).

CONDITION OF CERTIFICATION WORKER SAFETY-3, Verification

Verification: At least ~~60~~ ***30*** days prior to the start of site mobilization, the project owner shall submit to the CPM the name and contact information for the Construction Safety Supervisor (CSS). The contact information of any

replacement CSS shall be submitted to the CPM within one business day…..
(remainder of verification is unchanged)

CONDITION OF CERTIFICATION WORKER SAFETY-4

Genesis believes this condition to be duplicative. This condition requires the Owner to pay the Chief Building Official (CBO) for the services of a Safety Monitor to verify that Owner's Construction Safety Supervisor is complying with all OSHA and CEC requirements. It is excessive and redundant to require the Owner to both fund a Construction Safety Supervisor and also fund another position to monitor the Owner's Safety Supervisor. The requirement for the Owner to fund the Safety Monitor should be deleted.

CONDITION OF CERTIFICATION WORKER SAFETY-5, Verification

Verification: At least ~~60~~ ***30*** days prior to the ~~start of site mobilization~~ ***initiating any site work,*** the project owner shall submit to the CPM proof that a portable automatic external defibrillator (AED) exists on site and a copy of the training and maintenance program for review and approval.

CONDITIONS OF CERTIFICATION WORKER SAFETY-7

WORKER SAFETY-7 The project owner shall either:
(1) Reach an agreement, either individually or in conjunction with a power generation industry association or group that negotiates on behalf of its members, with the Riverside County Fire Department (RCFD) regarding funding of its project-related share of capital and operating costs to build and operate new fire protection/response infrastructure and provide appropriate equipment as mitigation of project-related impacts on fire protection services within the jurisdiction.
or
(2) Shall fund its share of the capital costs in the amount of ***$429,000*** and provide an annual payment of ***$195,000*** to the RCFD for the support of new fire department staff and operations and maintenance commencing with the ***delivery of HTF on-site*** ~~start of construction~~ and continuing annually thereafter on the anniversary until the final date of power plant decommissioning.

Verification: At least ~~sixty~~ ***thirty*** (30) days prior to the start of site mobilization, the project owner shall provide to the CPM:
(1) A copy of the individual agreement with the RCFD or, if the owner joins a power generation industry association, a copy of the bylaws and group's agreement/contract with the RCFD.
or

(2) Documentation that the amount of ***$429,000*** paid to the RCFD, ~~documentation that the first annual payment~~ ~~has been made~~, and shall also provide a statement in the Annual Compliance Report that subsequent annual payments ***of $195,000*** have been made.

Rationale: The applicant believes that an allocation of equal amounts to each project is not appropriate. The allocation should be based on the project size (MWs). The proposed allocation is more representative of the quantities of flammable materials on-site, the number of workers on-site, the potential for emergency events requiring county response, and the project's ability to bear this additional financial burden.

The following is the basis of the proposed numbers:

Genesis Solar Energy Project – 250 MW
Blythe Solar Power Project – 1000 MW
Palen Solar Power Project – 500 MW
Rice Solar Energy Project – 150 MW
Total of all projects – 1900 MW

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 revised opening testimony relating to the Facility Design for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 17, 2010.

P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Jared Foster

I, Jared Foster, declare as follows:

1. I am presently employed by WorleyParsons, as a Principal Mechanical Engineer.

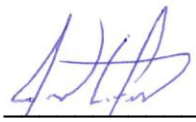
2. A copy of my professional qualifications and experience was included in my revised testimony.

3. I prepared the attached revised opening testimony relating to Facility Design for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Sacramento, CA on June 16, 2010.



Jared Foster

GENESIS SOLAR ENERGY PROJECT
FACILITY DESIGN
REVISED OPENING TESTIMONY

I. Name: P. Duane McCloud and Jared Foster

II. Purpose:

Our Revised Opening Testimony addresses the subject of the Facility Design associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

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 Facility Design 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.

Jared Foster: I am presently employed at WorleyParsons, and have been for the past 4 years and am presently a Principal Mechanical Engineer with that organization. I have a Bachelor Degree in Mechanical Engineering and I have over 8 years of experience in the field of Mechanical Engineering. I prepared or assisted in the preparation of the Facility Design 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 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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 3.11.

V. Opinion and Conclusions

We have reviewed the Facility Design section of the Revised Staff Assessment (RSA) and agree that with incorporation of the Conditions of Certification, the GSEP will not result in significant impacts and will comply with all laws, ordinances, regulations and standards (LORS).

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF WILLIAM N. ORR, Ph.D.**

I, William N. Orr, declare as follows:

1. I am presently an independent paleontological consultant.

2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Geology and Paleontology for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Eugene, OR on June 16, 2010.

_____
William N. Orr

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, PG, CEG**

I, Michael Tietze, declare as follows:

1. I am presently employed by WorleyParsons, 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 revised opening testimony relating to Geology and Paleontology for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 16, 2010.

Michael Tietze

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Kenneth Stein

I, Kenneth Stein, declare as follows:

1. I am presently employed by NextEra Energy Resourcess, 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 revised opening testimony relating to Geology and Paleontology for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Ft. Lauderdale, FL on June 17, 2010.

Kenneth Stein

GENESIS SOLAR ENERGY PROJECT
GEOLOGY AND PALEONTOLOGY
REVISED OPENING TESTIMONY

I. Name: William N. Orr, Michael Tietze and Kenneth Stein

II. Purpose:

Our Revised Opening Testimony addresses the subject of Geology and Paleontology associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

William N. Orr: I am presently an independent consultant, and have been for the past 28 years and am presently a lead paleontologist. I have a Ph.D. in Paleontology and I have over 40 years of experience in that field. I prepared or assisted in the preparation of 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.

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.

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 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.

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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 5.5 , 5.17 and Appendix E.
Exhibit 3	**Data Adequacy Supplement,** dated October 2009, and docketed on October 12, 2009.
Exhibit 11	**Data Requests Set 1A Responses (1 through 227),** dated December 14, 2009, and docketed on December 15, 2009, Responses 122 through 123.

V. Opinion and Conclusions

We have reviewed the Geology and Paleontology section of the Revised Staff Assessment (RSA) and agree that with incorporation of the Conditions of Certification, the GSEP will not result in significant impacts and will comply with all applicable laws, ordinances, regulations and standards (LORS).

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Jared Foster

I, Jared Foster, declare as follows:

1. I am presently employed by WorleyParsons, as a Principal Mechanical Engineer.

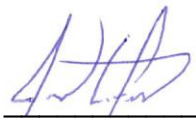
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Power Plant Efficiency for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Sacramento, CA on June 16, 2010.



Jared Foster

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 revised opening testimony relating to the Power Plant Efficiency for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 17, 2010.

P. Duane McCloud

GENESIS SOLAR ENERGY PROJECT
POWER PLANT EFFICIENCY
REVISED OPENING TESTIMONY

I. Name: Jared Foster and P. Duane McCloud

II. Purpose:

Our Revised Opening Testimony addresses the subject of Power Plant Efficiency associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

Jared Foster: I am presently employed at WorleyParsons, and have been for the past 4 years and am presently a Principal Mechanical Engineer with that organization. I have a Bachelor Degree in Mechanical Engineering and I have over 8 years of experience in the field of Mechanical Engineering. I prepared or assisted in the preparation of the Power Plant Efficiency 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 Power Plant Efficiency 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 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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 4.3.
Exhibit 12	**Genesis Solar, LLC's Informational Hearing & Site Visit Presentation,** dated December 12, 2009, and docketed on December 18, 2009.

V. Opinion and Conclusions

We have reviewed the Power Plant Efficiency section of the Revised Staff Assessment (RSA) and agree that no Conditions of Certification are required and that the GSEP will comply with all laws, ordinances, regulations and standards (LORS).

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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.

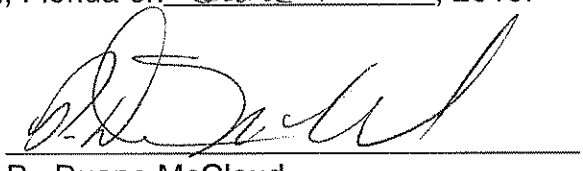
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to the Power Plant Reliability for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 17, 2010.



P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**DECLARATION OF** Jared Foster

I, Jared Foster, declare as follows:

1. I am presently employed by WorleyParsons, as a Principal Mechanical Engineer.

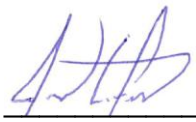
2. A copy of my professional qualifications and experience was included in my opening testimony.

3. I prepared the attached revised opening testimony relating to Power Plant Reliability for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 Sacramento, CA on June 16, 2010.



Jared Foster

GENESIS SOLAR ENERGY PROJECT
POWER PLANT RELIABILITY
REVISED OPENING TESTIMONY

I. Name: P. Duane McCloud and Jared Foster

II. Purpose:

Our Revised Opening Testimony addresses the subject of the Power Plant Reliability associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

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 Power Plant Reliability 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.

Jared Foster: I am presently employed at WorleyParsons, and have been for the past 4 years and am presently a Principal Mechanical Engineer with that organization. I have a Bachelor Degree in Mechanical Engineering and I have over 8 years of experience in the field of Mechanical Engineering. I prepared or assisted in the preparation of the Power Plant Reliability 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.

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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 4.3.
Exhibit 12	**Genesis Solar, LLC's Informational Hearing & Site Visit Presentation,** dated December 10, 2009, and docketed on December 18, 2009.

V. Opinion and Conclusions

We have reviewed the Power Plant Reliability section of the Revised Staff Assessment (RSA) and agree that no Conditions of Certification are required and GSEP will comply with all reliability-related laws, ordinances, regulations and standards (LORS).

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-08**
Application For Certification for the GENESIS SOLAR ENERGY PROJECT	**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 revised opening testimony relating to the Transmission System Engineering for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).

4. It is my professional opinion that the attached prepared revised opening 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 revised opening 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 June 17, 2010.

P. Duane McCloud

GENESIS SOLAR ENERGY PROJECT
TRANSMISSION SYSTEM ENGINEERING
REVISED OPENING TESTIMONY

I. Name: P. Duane McCloud, Steven Richards and Lin Tun

II. Purpose:

Our Revised Opening Testimony addresses the subject of the Transmission System Engineering associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

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 Transmission System Engineering 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.

Steven Richards: I am presently employed at WorleyParsons, and have been for the past two and a half years and am presently an associate electrical engineer with that organization. I have a Bachelors Degree in Electrical Engineering and I have over two years of experience in the field of electrical engineering. I prepared or assisted in the preparation of the Facility Description and Location and Transmission and Design Criteria 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.

Lin Tun: I am presently employed at Nextera Energy, and have been for the past ½ years and am presently a Director with that organization. I have a B.S Degree in Electrical Engineering and I have over 19 years of experience in the field of Electrical Engineering . I prepared or assisted in the preparation of the Transmission System Engineering 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 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 1	**Application for Certification Vol I & II**, dated August 2009, and docketed on August 31, 2009, Section 3.6.
Exhibit 3	**Data Adequacy Supplement,** dated October 2009, and docketed on October 12, 2009.
Exhibit 54	**Reasonably Foreseeable Development Scenario: Southern California Edison River Substation,** dated May 19, 2010, and docketed on May 19, 2010.

V. Opinion and Conclusions

We have reviewed the Transmission System Engineering section of the Revised Staff Assessment (RSA) and agree that with incorporation of the Conditions of Certification, the Transmission System Engineering section of the Project will not result in significant impacts and will comply with all laws, ordinances, regulations and standards (LORS).

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

APPLICATION FOR CERTIFICATION FOR THE *GENESIS SOLAR ENERGY PROJECT*

Docket No. 09-AFC-8

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(Revised 6/7/10)

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DECLARATION OF SERVICE

I, Marie Mills, declare that on June 18, 2010, I served and filed copies of the attached GENESIS SOLAR, LLC'S REVISED OPENING TESTIMONY dated June 18, 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://ww.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:

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

_____ by personal delivery;

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

AND

FOR FILING WITH THE ENERGY COMMISSION:

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

OR

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

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 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