Supplement

Response to Data Adequacy Review

of the

Application for Certification

for the

Hidden Hills Solar Electric Generating System (HHSEGS)

(11-AFC-02)

Submitted to the

California Energy Commission

Submitted by

Hidden Hills Solar I, LLC,
and Hidden Hills Solar II, LLC

September 2011

CH2MHILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

Contents

AFC Section **Page**

Introduction....1

2.0 Efficiency....2

3.0 Transmission System Engineering....3

5.1 Air Quality....7

5.2 Biological Resources....8

5.3 Cultural Resources....18

5.6 Land Use....27

5.12 Traffic and Transportation....29

5.13 Visual Resources....34

5.14 Water Resources....35

Tables

EFF-1 Electrical Energy Produced for Various Modes of Operation
CR-1 Permits Required and Permit Schedule for Cultural Resources
TT-1 Existing (2009) Roadway Level of Service
TT-2 Delivery Schedule for Hazardous Materials

Figures

3.2-2R 230 kV Switchyard One-line Diagram
TSE-1 230-kV Switchyard, Plan View
TSE-2 Typical Double-circuit Monopole 230-kV Structure
5.2-1 Special-status Plant Species within 10 Miles of HHSEGS Site
5.2-2 Special-status Wildlife Species within 10 Miles of HHSEGS Site

Attachments

BR-1 Wetland Delineation Figures
BR-2 CNDDB Verification
BR-3 Biologist Resumes
BR-4 Record of Conversation with Agencies
CR-1 Archaeologist Resumes
VR-1 Conceptual Landscaping Plan
WR-1 Technical Memorandum from Cardno ENTRIX
5.15ER Postconstruction Hydrology Report

Introduction

This Supplement to the Hidden Hills Solar Electric Generating System (HHSEGS) Application for Certification (AFC) (11-AFC-02) responds to comments the California Energy Commission (CEC) Staff have made as a result of their data adequacy review of the AFC. The intention of this Supplement is to provide all additional information necessary for Staff to find that the AFC contains sufficient and adequate data to begin a power plant site certification proceeding under Appendix B of Title 20, California Code of Regulations and the Warren-Alquist Energy Resources Conservation and Development Act.

The format for this Supplement follows the order of the AFC sections and provides additional information and responses to CEC information requests on Efficiency, Transmission System Engineering, Air Quality, Biological Resources, Cultural Resources, Land Use, Traffic and Transportation, Visual Resources, and Water Resources. Generally, only sections for which CEC Staff posed requests or questions related to data adequacy are addressed in this supplement. However, one correction to the Hydrologic Setting has also been included in the Water Resources section. If the response calls for additional appended material, it is included at the end of each subsection.

Each subsection contains data adequacy questions or information requests, with numbers and summary titles and, in brackets, the citation from Appendix B, Title 22, California Code of Regulations (*Regulations Pertaining to the Rules of Practice and Procedure and Power Plant Site Certification*) indicating a particular information requirement for the AFC. Each item follows with the CEC Staff comment on data adequacy for this item, under the heading "Information required for the AFC to conform with regulations" followed by the Applicant's response to the information requested.

2.0 Efficiency

1. Natural Gas Consumption [Appendix B(h)(4)(B)]

Annual fuel consumption in BTUs for each mode of operation, including hot restarts and cold starts.

Information required for the AFC to conform to the regulations:

Please provide expected annual natural gas consumption in BTUs

Response- Maximum facility natural gas use was provided in Air Quality Table 5.1-20. Annual natural gas consumption will be limited to 1,696,376 MMBtu per year.

2. Electrical Energy [Appendix B(h)(4)(C)]

Annual net electrical energy produced in MWh for each mode of operation including starts and shutdowns.

Information required for the AFC to conform to the regulations:

Please provide expected annual net electrical energy produced in MWh for each mode of operation (i.e.; cloud cover when using natural gas, non-cloudy days when utilizing the sunlight)

Response- Maximum gross output from both solar plants is 1,512,000 MWh per year (see Air Quality Table 5.1B-13, Appendix 5.1B). As stated in AFC Section 2.1, "[o]n an annual basis, heat input from natural gas will be limited by fuel use and other conditions to less than 10 percent of the heat input from the sun." Therefore, maximum plant output from natural gas will be less than 151,200 MWh per year.

The following table addresses solar only mode and natural gas mode (with partial solar or without). Note that during the night preservation and during start-up the boilers are in operation but there is no net electrical energy being produced to the grid. This table also takes into account maintenance outages and plant availability.

TABLE EFF-1
Electrical Energy Produced for Various Modes of Operation

	One Plant Net (MWh/year)	Two Plants Net (MWh/year)
Solar Produced Electricity	677,690	1,355,380
Natural Gas Contribution	53,156	106,312

3.0 Transmission System Engineering

1. Detailed Description [Appendix B(b)(2)(C)]

A detailed description of the design, construction, and operation of any electric transmission facilities, such as power lines, substations, switchyards, or other transmission equipment, which will be constructed or modified to transmit electrical power from the proposed power plant to the load centers to be served by the facility. Such description shall include the width of rights of way and the physical and electrical characteristics of electrical transmission facilities such as towers, conductors, and insulators.

Information required for the AFC to conform to the regulations:

a. *Provide a complete electrical one-line diagram (or resubmit Figure 3.2-2) of Hidden Hills Solar Electric Generating System plant 1 and 2 switchyard showing all equipments for generator interconnection with the onsite switchyard including any bus duct connectors or cables, 4.16 kV switchgear & breakers on the low side (13.8kV), generator step-up transformers, underground cables and overhead conductors with its configuration, buses, breakers and disconnect switches on the 230 kV side and their respective ratings.*

Response-The one-line diagram has been revised as requested and is provided as Figure 3.2-2R.

b. *Provide conductor current carrying capacity, size and type, 230 kV pole configuration and number of poles that would be required to construct the proposed 900 feet segment (within the California border) of the HHSEGS-El-Dorado 230kV double-circuit transmission lines.*

Response-The conductors will be selected based on the maximum operating output capability of HHSEGS determined by final heat balances. Ratings indicate a worst-case nominal output of 800 amperes. A 954 KCM ACSR conductor or alternative equivalent conductor capable of carrying 800 amperes continuous is recommended for the nameplate rating output.

The anticipated span of the 230-kV line is between 600 to 900 feet depending on terrain. The Plan View of the 230-kV switchyard (see Figure TSE-1) shows only one pole in California.

The typical 230-kV double-circuit monopole that will be used from the onsite switchyard to the Tap Substation is provided in the attached Figure TSE-2.

***2. LORS [*Appendix B(i)(1)(A)]**

Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, and permits applicable to the proposed project, and a discussion of the applicability of each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed;

Information required for the AFC to conform to the regulations:

Need to discuss the CPUC G.O. 95 and 128 rules and how they applicable in construction of underground and overhead transmission lines.

Response—The following revisions have been made to Section 3.0, Transmission System Engineering.

The last paragraph of Section 3.3, Transmission System Safety and Nuisances, of the AFC should be revised to add the underlined text.

> The HHSEGS gen-tie lines will be designed to meet all national, state, and local code clearance requirements. <u>The final design values of lines located in California will be consistent with General Order 95 (GO-95) of the California Public Utilities Commission (CPUC).</u>

The first paragraph of Section 3.3.2.1.1, Transmission Line EMF Reduction, of the AFC should be revised with the following text:

> While the State of California does not set a statutory limit for electric and magnetic field levels, the CPUC, which regulates electric transmission lines in California, mandates EMF reduction as a practicable design criterion for new and upgraded electrical facilities. As a result of this mandate, the regulated electric utilities have developed their own design guidelines to reduce EMF at each new facility. The CEC, which regulates transmission lines to the first point of connection, requires generators to follow the existing guidelines that are in use by local electric utilities or transmission-system owners.
>
> In keeping with the goal of EMF reduction, the interconnections of HHSEGS will be designed and constructed using the principles outlined in the SCE publication, "EMF Design Guidelines for Electrical Facilities" (EMF Research and Education, 2004). These guidelines explicitly incorporate the directives of the CPUC by developing design procedures compliant with Decision 93-11-013 and General Orders 95, 128, and 131-D. That is, when the transmission line structures, conductors, and rights-of-way are designed and routed according to the SCE guidelines, the transmission line is consistent with the CPUC mandate.

The following paragraph should be added to the end of Section 3.3.2.4, Induced Current and Voltages, of the AFC:

> The proposed 230-kV transmission interconnection will be constructed in conformance with GO-95 and Title 8 California Code of Regulations Section 2700 (8 CCR 2700) requirements. Therefore, hazardous shocks are unlikely to occur as a result of project construction or operation.

Section 3.3.3, Fire Hazards, should be revised to add the underlined text:

> The onsite gen-tie lines will be designed, constructed, and maintained in accordance with the stringent requirement of the NESC <u>and GO-95</u>. The NESC <u>and GO-95</u> establishes clearances from other man-made and natural structures as well as tree-trimming requirements to mitigate fire hazards. The proposed onsite

transmission corridors are not located in the vicinity of facilities that would contribute to a fire hazard.

The following rows are added to Table 3.4-1:

TABLE 3.4-1
Design and Construction LORS

LORS	Applicability
Title 8 California Code of Regulations (CCR), Section 2700 et seq. "High Voltage Electrical Safety Orders"	Establishes essential requirements and minimum standards for installation, operation, and maintenance of electrical installation and equipment to provide practical safety and freedom from danger.
General Order 128 (GO-128), CPUC, "Rules for Construction of Underground Electric Supply and Communications Systems"	Establishes requirements and minimum standards to be used for the underground installation of alternating current (AC) power and communications circuits.
General Order 52 (GO-52), CPUC, "Construction and Operation of Power and Communication Lines"	Applies to the design of facilities to provide or mitigate inductive interference.

The following rows are added to Table 3.4-2:

TABLE 3.4-2
Hazardous Shock LORS

LORS	Applicability
Title 8 CCR Section 2700 et seq. "High Voltage Electrical Safety Orders"	Establishes essential requirements and minimum standards for installation, operation and maintenance of electrical equipment to provide practical safety and freedom from danger.

3. Permits [Appendix B(i)(3)]

A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.

Information required for the AFC to conform to the regulations:

Indicate when the project will receive preliminary approval from the California ISO, and when a copy of an updated Cluster study will be available and provided to the California Energy Commission.

Response— The HHSEGS is in Cluster 4 of the CAISO interconnection queue. The HHSEGS does not need approval from the CAISO; however, the first phase of the Cluster 4 study will identify the project's maximum cost responsibility for potential upgrades, assuming that all projects in the queue go forward.

The original deadline for the CAISO's issuance of the Phase 1 study results for Cluster Study 4 was August 2011. The CAISO now anticipates the results will likely be issued in January 2012. The Phase 1 study report will be submitted to the CEC upon receipt from the CAISO. The Large Generator Interconnection Agreement for the project will be issued once the CAISO issues the Phase 2 study report for Cluster Study 4, which is expected in August 2012. The Phase 2 study report will also be submitted to the CEC upon receipt.

NOTES:
1. ALL EQUIPMENT SIZES AND RATINGS ARE APPROXIMATE AND SHALL BE FINALIZED DURING DETAILED DESIGN

LEGEND:
AG = ABOVE GROUND
UG = UNDER GROUND

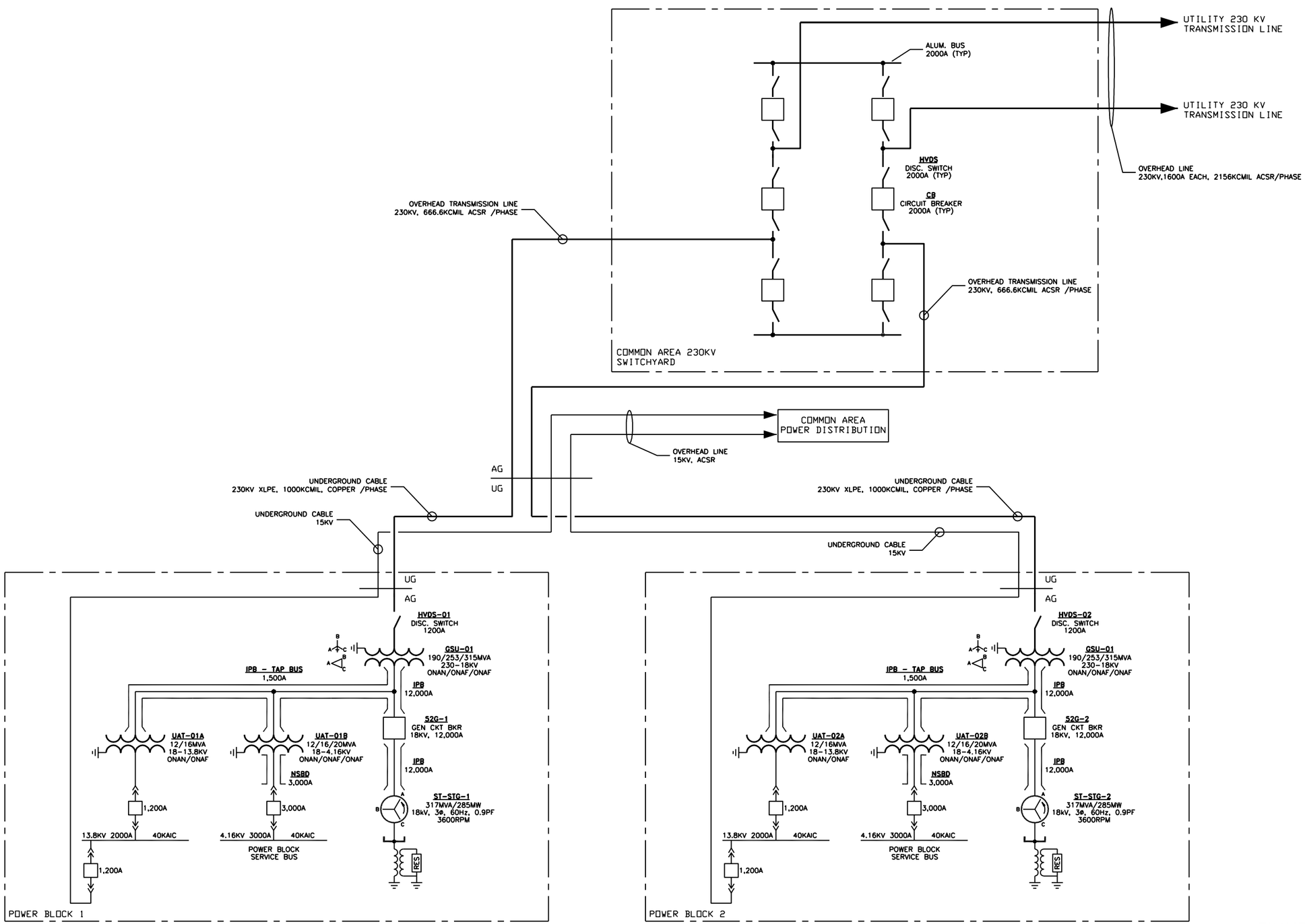
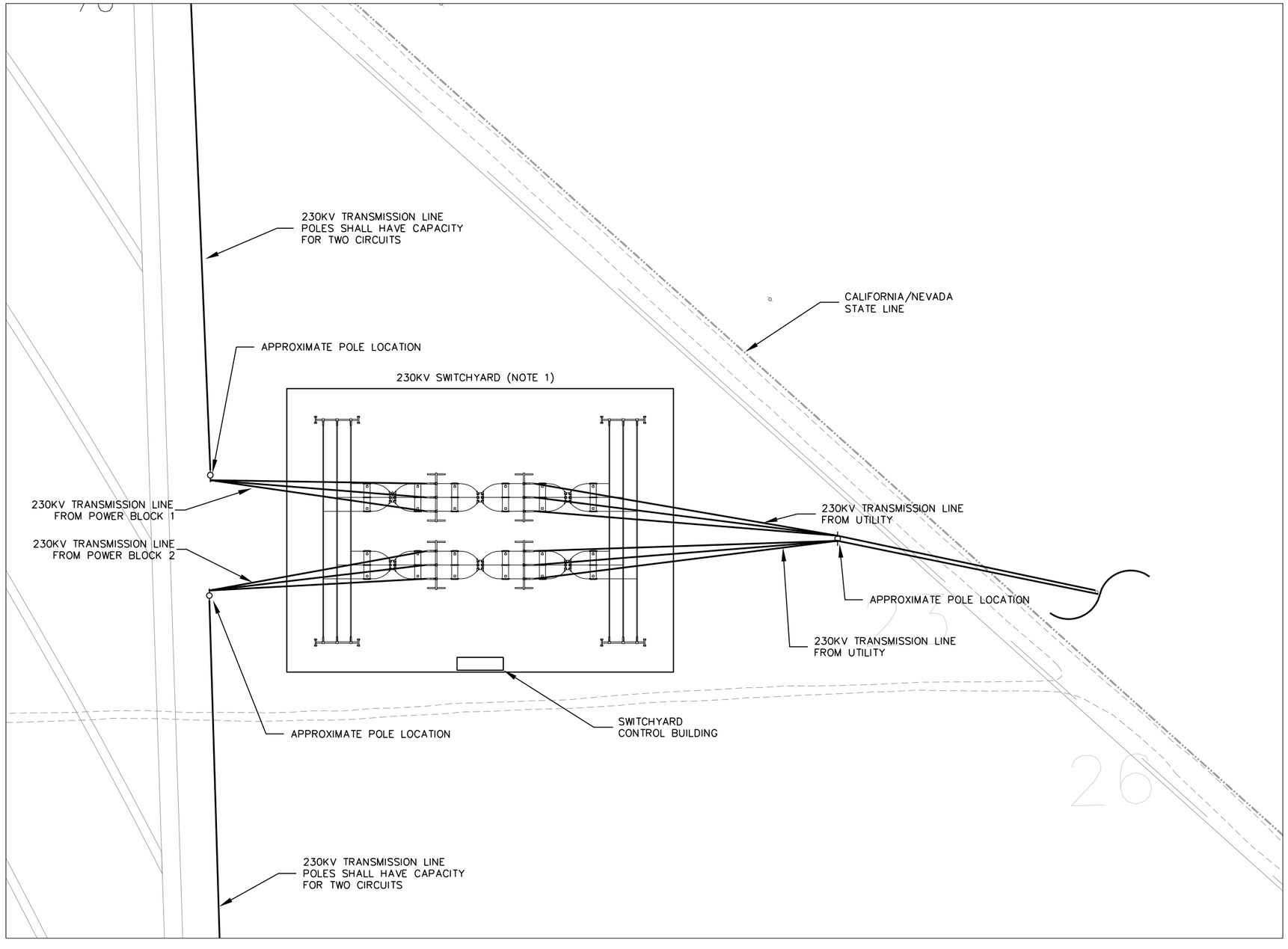


FIGURE 3.2-2R
230 kV Switchyard One-line Diagram
Hidden Hills Solar Electric Generating System

Source: Drawing No. EL-SKE-001R1, 9/1/2011.



NORTH

NOTES:

1. SWITCHYARD SHALL HAVE A 30' DRIVE ISLE BETWEEN EQUIPMENT AND THE FENCE. A 20' DRIVE ISLE SHALL BE LEFT BETWEEN THE EQUIPMENT IN THE TWO BAYS.

60 0 60 120
Scale: 1 INCH = 60 FEET

FIGURE TSE-1
230-kV Switchyard, Plan View
Hidden Hills Solar Electric Generating System

Source: Drawing No. E-SKE-003R1, 9/1/2011.

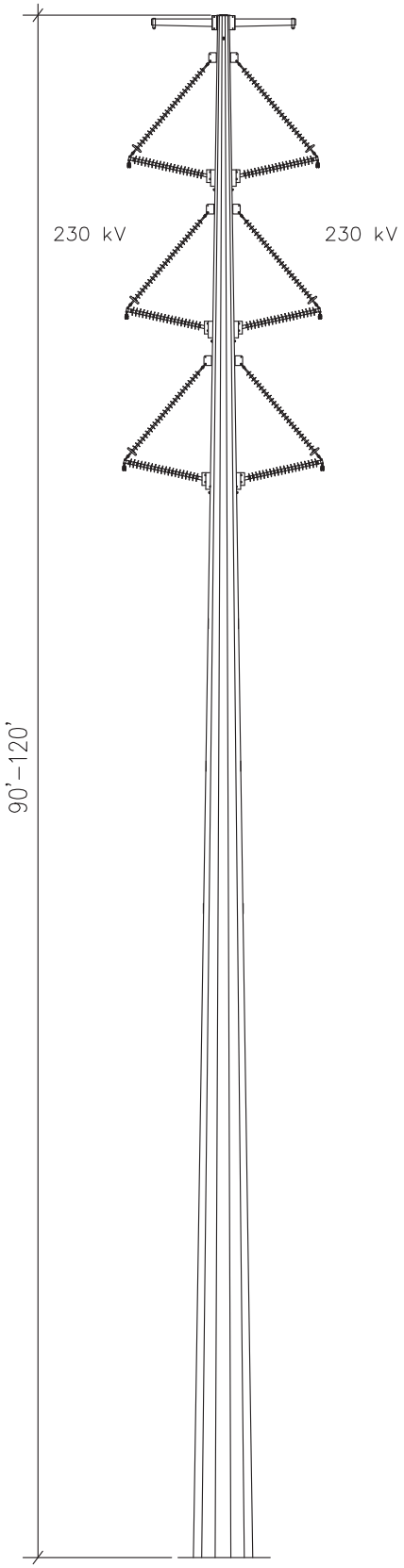


FIGURE TSE-2
Typical Double-circuit Monopole 230-kV Structure
Hidden Hills Solar Electric Generating System

Source: Valley Electric Association, Plan of Development, rev. 2.

5.1 Air Quality

1. Coordination with the AQMD [Appendix B(g)(8)(A)]

The information necessary for the air pollution control district where the project is located to complete a Determination of Compliance.

Information required for the AFC to conform to the regulations:

Please provide the permit application completeness letter from the Great Basin Unified Air Pollution Control District (GBUAPD). This letter is expected on early part of September.

Response—The permit application completeness letter from the Great Basin Unified Air Pollution Control District (GBUAPD) will be provided directly to the CEC.

5.2 Biological Resources

1. Sensitive Biological Resources Map [Appendix B(g)(13)(A)]

A regional overview and discussion of terrestrial and aquatic biological resources, with particular attention to sensitive biological resources within ten (10) miles of the project. Include a map at a scale of 1:100,000 (or other suitable scale) showing sensitive biological resource location(s) in relation to the project site and related facilities and any boundaries of a local Habitat Conservation Plan or similar open space land use plan or designation. Sensitive biological resources include the following:

Information required for the AFC to conform to the regulations:

Please provide a map at 1:100,000 scale of sensitive biological resources within 10 miles of the project site and related facilities and any boundaries of a local Habitat Conservation Plan or similar open space land use plan or designation.

Response-Due to the size of the figures, five C-sized drawings of Figures 5.2-1 and 5.2-2 at the requested scale are being provided to the CEC.

2. State Waters Impacts [Appendix B(g)(13)(A)(v)]

species and habitats identified by local, state, and federal agencies as needing protection, including but not limited to those identified by the California Natural Diversity Database, or where applicable, in Local Coastal Programs or in relevant decisions of the California Coastal Commission; and

Information required for the AFC to conform to the regulations:

Please contact California Department of Fish and Game regarding delineation of state waters. Discuss the potential impacts to state waters. Please provide a copy of any record of conversation and/or letter the applicant has sent to CDFG regarding the proposed project's impacts to state waters and any response to these communications.

Response- This response confirms that there are no such records of conversation responsive to this request. Please note that while Appendix B does not include any reference to state water issues in Section (g)(13)(A)(v), the Applicant agrees that the requested information would be relevant during Discovery and, as such, the Applicant has already begun the process of gathering information and analyzing data to provide Staff with the requested information. The Applicant expects the US Army Corps wetlands determination soon, since the Corps completed its field verification work on August 29, 2011. The Corps' determination regarding waters of the U.S. will in turn inform the discussion of state waters. The Applicant will contact CDFG (or the Regional Water Quality Control Board) regarding the delineation of the site once the USACE has made its determination on which washes constitute waters of the U.S.

3. Delineated Wetlands Map [Appendix B(g)(13)(B)(iii)]

An aerial photo or wetlands delineation maps at a scale of (1:2,400) showing any potential jurisdictional and non-jurisdictional wetlands delineated out to 250 feet from the edge of disturbance if wetlands occur within 250 feet of the project site and/or related facilities that would be included with the US Army Corps of Engineers (USACE) Section 404 Permit application. For projects proposed to be located within the coastal zone, also provide aerial photographs or maps as described above that identify wetlands as defined by the Coastal Act.

Information required for the AFC to conform to the regulations:

Please provide maps a scale of 1:2,400 showing any potential jurisdictional and non-jurisdictional wetlands delineated out to 250 feet from the edge of disturbance if wetlands occur within 250 feet of the project site and/or related facilities that would be included with the US Army Corps of Engineers (USACE) Section 404 Permit application.

Response-Due to the size of the figures, five sets of maps of the washes within the 250-foot buffer area and the 180-acre temporary construction area are being provided to the CEC as Attachment BR-1. They replace the figures located in Appendix C of the Jurisdictional Delineation Report included as Appendix 5.2E of the AFC.

4. CNDDB Records & Field Survey Forms; Qualifications of Biologists [Appendix B(g)(13)(D)]

A description and results of all field studies and seasonal surveys used to provide biological baseline information about the project site and associated facilities. Include copies of the California Natural Diversity Database records and field survey forms completed by the applicant's biologist(s). Identify the date(s) the surveys were completed, methods used to complete the surveys, and the name(s) and qualifications of the biologists conducting the surveys. Include:

Information required for the AFC to conform to the regulations:

a. Have UTM coordinates for sensitive species encountered in Appendix 5.2F. Please provide verification that field forms and maps have been provided to the CNDDB.

Response- UTM coordinates for sensitive wildlife species are included in AFC Appendix 5.2F. UTM coordinates for desert tortoise and sign are in Table 1 and in Table 2 for all other sensitive species (western badger and burrowing owl) observed during the surveys. Copies of the field forms and maps have been submitted to CNDDB (Vaughn, 2011, copy of email provided as Attachment BR-2).

b. Missing resumes of Christine Stirling, Mercy Vaughn, Steve Boland, and Dan Williams and any other biologist(s) that worked on the avian point count surveys whose resumes were not included the AFC.

Response-Resumes of the above-referenced biologists are provided in Attachment BR-3. In addition, they also include Shawn Lockwood and Rebecca Allen who also worked on the avian point count surveys. Resumes are in alphabetical order by last name.

5. Protocol Surveys [Appendix B(g)(13)(D)(i)]

Current biological resources surveys conducted using appropriate field survey protocols during the appropriate season(s). State and federal agencies with jurisdiction shall be consulted for field survey protocol guidance prior to surveys if a protocol exists;

Information required for the AFC to conform to the regulations:

Protocol surveys were not conducted for western burrowing owl and golden eagle. Please follow survey protocol guidance from Pagel 2010 for golden eagle and California Burrowing Owl Consortium 1993 for western burrowing owl. Please provide an assessment of potential impacts to roosting and foraging habitat for bats.

Response- As discussed in Appendix 5.2F of the AFC, the survey for western burrowing owl was conducted concurrently with the desert tortoise survey. It included the survey for burrowing owl of an additional 150-meter buffer (652 acres) outside the proposed project boundary, which is not required by the desert tortoise survey protocol. This survey conforms to the California Burrowing Owl Consortium 1993 protocol for western burrowing owl.

On May 4, 2011, CH2MHill Biologist Jim Marble spoke to CDFG Biologist Jeff Villepique regarding conducting helicopter surveys for Golden Eagle. Mr. Villepique stated that the helicopter surveys could not be conducted since the areas to be surveyed conflicted with Big Horn Sheep lambing areas. The helicopter surveys could occur once lambing season has ended. The Record of Conversation between Mr. Marble and Mr. Villepique is included in Attachment BR-4.

Consistent with the direction the Applicant received from the CDFG, the survey for golden eagle was conducted on foot in accordance with Pagel et al. (2010), which states on page 14, "Ground observation will be necessary for inventory of cliff complexes and monitoring of potential and known Golden Eagle territories in bighorn sheep lambing areas." It states later on page 14, "Ground observation may be the recommended alternative to additional survey flights due to convenience or necessitated by other sensitive wildlife species." The presence of bighorn sheep breeding populations was established through consultation with the California Department of Fish and Game (Villepique, 2011). The survey included only one visit. Pagel et al. (2010) states on page 17, "To inventory and determine occupancy of cliff systems, there will be at least 2 observation periods per season." and, "Observation periods will be at least 30 days apart for monitoring efforts." Assuming CDFG does not object, a second nest survey by helicopter will be completed in the next 60 days to identify any additional possible raptor nests.

An assessment of potential impacts to roosting and foraging habitat for bats is presented in AFC Section 5.2.7 Environmental Analysis under the respective species in subsections 5.2.7.6.5 through 5.2.7.6.8. The respective assessments are summarized in Table BR-1.

TABLE BR-1
Summary of AFC Analyses Regarding Bat Species Roosting and Foraging Habitats

Bat Species	Roosting Habitats	Foraging Habitats
§5.2.7.6.5, Townsend's big-eared bats	The nearest roosting habitats are 20 miles away There is no potential to impact roosting sites.	Townsend's big-eared bats forage over areas within 15 miles of their day roost. The site is outside of the foraging range from roosting sites, 20 miles away. There is no potential to impact foraging habitats.
§5.2.7.6.6, Pallid bats	The nearest roosting habitats are 18 miles from the site. There is no potential to impact roosting sites.	Pallid bats forage over areas 1 to 3 miles from their day roost. The site is outside of the foraging range from roosting sites, 18 miles away. There is no potential to impact foraging habitats.
§5.2.7.6.7, Long-legged myotis	The nearest roosting habitats are 14 miles from the site. There is no potential to impact roosting sites.	This species generally uses forested habitats. Appropriate habitats do not occur within 10 miles of the site. Impacts are expected to be less than significant.
§5.2.7.6.8, Brazilian free-tailed bat	The nearest roosting habitats is 10 miles from the site. There is no potential to impact roosting sites.	This species forage over areas up to 25 miles from the roost. However, the site will not provide adequate insect prey to attract foraging. Impacts are expected to be less than significant.

6. Air Emission Impacts [Appendix B(g)(13)(E)(i)]

all impacts (direct, indirect, and cumulative) to biological resources from project site preparation, construction activities, plant operation, maintenance, and closure. Discussion shall also address sensitive species habitat impacts from cooling tower drift and air emissions;

Information required for the AFC to conform to the regulations:

a. Please provide a discussion of potential impacts to biological resources from plant closure. Please address the project's impacts to the following biological resources: special status plant species, Nelson's bighorn sheep spring foraging habitat, desert kit fox, golden eagle, special status bats, state waters, and the effects of the power tower and other structures to avian species.

Response—

Plant Closure. The Applicant's use of the privately-owned HHSEGS site property is conditioned upon the development of a Conceptual Decommissioning Plan that will include the dismantling and removal of the facility, and the remediation and restoration of the site to the extent reasonably practicable. The Conceptual Decommissioning Plan will be provided to the landowner approximately 6 months before commencement of construction or some lesser time by agreement of the Applicant and the landowner. The Conceptual Decommissioning Plan will include the removal of all above-grade structures, below-grade foundations to a depth of 4 feet, structures, equipment, pipes, conduits and wires. Conditions on the site after closure will depend in part on the development plans of the private property owner and the uses permitted pursuant to the future General Plan and Zoning Ordinance in place at the time of closure. Economic conditions and the range of possible uses available to the owner after closure present so

many disparate opportunities that their impacts cannot be accurately assessed at this time without conjecture. The "conceptual" nature of the Conceptual Decommissioning Plan reflects the uncertainty inherent in trying to predict future events. Reclamation may consist of redevelopment or other means of stabilizing the site, all as approved by regulatory agencies that would have jurisdiction over closure at the time. Some features and fencing could remain at the request of the property-owner with agencies' concurrence. The removal of facilities could benefit wildlife species.

Regarding the project's potential to impact special status plant species, Nelson's bighorn sheep spring foraging habitat, desert kit fox, golden eagle, special status bats, and state water, these issues are discussed in the AFC in Section 5.2.2, Summary of Key Findings (and the subsections thereof); Section 5.2.5, Methods, (and the subsections thereof); Section 5.2.6, Results, (and the subsections thereof); Section 5.2.7, Environmental Analyses (and the subsections thereof); and Section 5.2.8, Cumulative Impacts (and the subsections thereof).

Please also see item 7 below, "Off-site Habitat Mitigation [Appendix B(g)(13)(F)(ii)]."

Structural Effects on Avian Species. Structural features and operational protocols are designed to proactively avoid and minimize potential effects of the power tower and other structures on avian species. The potential for avian strikes is minimized by the design of artificial lighting systems to avoid attracting avian species flying at night (Hill, 1992; Podolsky, 2006). If permissible by the Federal Aviation Administration (FAA), the lighting design will configure lighting to have only red lights with the longest permissible interval between flashes and the shortest permissible flash duration and by synchronizing FAA lighting to increase the flash effect, consistent with FAA safety requirements. Limiting night lighting to a minimum by not illuminating the sides of structures, masking light fixtures to direct light downward and turning off lights when not in use will further avert effects on birds.

The potential for effects on migrating birds is expected to be small since they generally migrate at night and at an altitude above the ground structures. Strikes are unlikely since previous studies have shown that most strikes involve nocturnal migrants flying at night in inclement weather and low-visibility conditions, which strike tall, guyed television or radio transmission towers (CEC, 1995; Kerlinger, 2000). Bird and strikes are expected to be rare due to the absence of migratory pathways, ridge tops, and concentrations of waterfowl. No significant impacts on bats are expected since there are no locations of concentrated roosting sites for bats in the vicinity of the Project (see Table BR-1).

The management of heliostat orientation will avert the risk of heat injuries at standby points. Heliostats will not be directed toward the same standby points, which will avert creating areas in the air above the facility hot enough to cause injury. Birds that fly into the zone of converging reflected sunlight between the heliostats and the power towers during operation could be affected.

Designing and constructing poles and lines according to industry guidelines in Avian Power Line Interaction Committee (APLIC) (2006) and Edison Electric (2004) will largely avert lines strikes and electrocutions.

Trash containers and waste management associated with the Project that could provide subsidies to predators will be secured in self-closing receptacles to prevent the introduction of subsidized food resources to predators. Worker awareness programs will increase understanding of avian and bat threats and enhance cooperation and compliance.

Estimates of the magnitude of effects on avian and bat species based on correlations with installed power generation capacity at wind turbine generator facilities are not valid for solar concentrating facility. US Fish and Wildlife Service has issued guidance for avian protection that is specific to solar projects (Nicolai et al., 2011).

References

Avian Power Line Interaction Committee (APLIC). 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission, Washington, D.C. and Sacramento, CA.

California Energy Commission (CEC). 1995. Avian Collision and Electrocution: An Annotated Bibliography. California Energy Commission. pp. 114

Edison Electric Institute. 2004. Mitigating Bird Collisions with Power Lines: the State of the Art in 1994. Washington, DC.

Hill, D. 1992. The Impact of Noise and Artificial Light on Waterfowl Behavior: A Review and Synthesis of Available Literature. British Trust for Ornithology Research Report No. 61.

Kerlinger, Paul. 2000. Avian Mortality at Communication Towers: A Review of the Recent Literature, Research, and Methodology. Prepared for the U.S. Fish and Wildlife Service Office of Migratory Bird Management. 38 pp.

Nicolai, C., S. Abele, H. Beeler, R. Doster, E. Kershner and T. McCabe. 2011. Monitoring Migratory Bird Take at Solar Power Facilities: An Experimental Approach. US Fish and Wildlife Service. April 26, 2011.

Podolsky, R.H. 2006. Take back the night. Ecology 87(12):3223–3224.

b. Please provide a discussion of potential impacts of dust and nitrogen deposition on sensitive species habitat.

Response— The Applicant is motivated to control dust during construction (to prevent potential fouling of equipment) and during operations (to prevent dust from degrading the effectiveness of the heliostat mirrors). Disturbance of the soil's surface caused by construction traffic and other activities (such as mirror washing) could result in increased wind erosion of the soil. Transport of dust and sand by the erosive force of winds can result in the degradation of soil and vegetation over a large area if left unchecked.[1] Dust can have deleterious physiological effects on plants and may affect their productivity and nutritional qualities. The destruction of plants and soil crusts by

[1] Okin, G.S., W.H. Schlesinger, and B. Murray, 2001, Degradation of Sandy Arid Shrubland Environments: Observations, process modeling and management implications: Journal of Arid Environments, v. 47, 123-144.

windblown sand and dust can exacerbate the erodibility of the soil and accelerate the loss of nutrients.[2] Soil erosion from construction activities and vehicle activity, which can affect vegetation and soil properties, could without proper control have an adverse effect on both tortoise foraging and burrowing potential to lands outside of the HHSEGS boundaries.

Soil disturbance on the project site will be limited as much as possible, as described in the Soils section (Section 5.11.4.6.1):

> "To construct the heliostat array fields within these sites, some vegetation clearing will occur but only where necessary to allow for equipment access and stormwater management. In areas where general site grading is not required, vegetation clearing will not occur, except for the drive zones, which will be grubbed, bladed, and smoothed." [p. 5.11-11]

The generation of dust during project construction and operation will be further minimized with implementation of proposed air quality mitigation measures (Air Quality Section 5.1.7) and best management practices (BMPs) and the drainage, erosion and sediment control plan (DESCP) (Soils Sections 5.11.4.1 and 5.11.4.3).

Air emissions from the natural gas-fired boilers and the emergency engines include nitrogen oxides (NOx). Nitrogen oxide gases (NO, NO_2) may convert to nitrate particulates and nitric acid in a form that is suitable for uptake by most plants. Increased nitrate availability could potentially impact the natural vegetation community in the project area. In addition, an increase in available nitrates could encourage the growth of non-native invasive plants, allowing them to out-compete the native plants. However, NOx emissions from the project will be extremely low. In addition, ambient ozone levels in the project area are also relatively low. Nitric acid and particulate nitrate are formed through photochemical reaction of NOx with ozone, and the low background ozone concentrations will further limit their formation. Therefore, nitrogen deposition impacts are not expected to be significant.

7. Off-site Habitat Mitigation [Appendix B(g)(13)(F)(ii)]

All off-site habitat mitigation and habitat improvement or compensation, and an identification of contacts for compensation habitat and management;

Information required for the AFC to conform to the regulations:

a. *Only addresses desert tortoise. Please provide a discussion of the need for compensatory mitigation regarding western burrowing owl, special status plants, Nelson's bighorn sheep foraging habitat, desert kit fox, golden eagle foraging habitat, special status bats, and state waters.*

Response— CEQA requires avoidance or minimization of potentially significant impacts. In terms of avoidance, the solar power tower technology for the HHSEGS project design incorporates an important technology advancement, the 750-foot-tall solar power tower. One principle advantage of the HHSEGS solar power tower design is that it results in more efficient land use and greater power generation. The new, higher,

[2] Ibid.

750-foot solar power tower allows the heliostat rows to be placed closer together, with the mirrors at a steeper angle. This substantially reduces mirror shading and allows more heliostats to be placed per acre. More megawatts can be generated per acre and the design is more efficient overall. Avoidance provides substantial mitigation for all of the species listed above.

Mitigation measures are discussed in detail in the AFC in Section 5.2.9, Mitigation Measures.

Regarding minimization of impacts, it is anticipated that the project will result in some loss of foraging habitat for burrowing owls. However, the loss is a less-than-significant impact because of the vast amount of similar habitat offsite that would remain available to owls during and after construction. Worker training programs, both during construction and for plant operations, will also allow workers to identify burrowing owls and avoid potential impacts. In addition, mitigation for desert tortoise as described in AFC section 5.2.9.2.1 will provide ample concurrent mitigation for western burrowing owl.

Impacts to special-status plants will be less-than-significant through avoidance and the practices implemented during construction and, therefore, no further mitigation is required.

Bighorn sheep escape cover and foraging habitat does not exist on the project site. Potential use of the site by this species is very low. The open terrain around the site will allow easy passage for any occasional migration across the valley. This project will not significantly impact this species. Therefore, no further mitigation measures for Nelson's bighorn sheep are necessary.

Denning and foraging habitat for desert kit fox, a common species, may be lost. Canid burrows on the site used by other species may be common desert kit fox dens. This kit fox species is not listed as endangered or threatened under the Federal Endangered Species Act or the California Endangered Species Act. Because project impacts to desert kit fox would be less-than-significant, no further mitigation has been proposed.

Potential golden eagle foraging habitat will be lost during the operating life of the project. However, the loss of foraging habitat is expected to be a less-than-significant impact because of the few number of individuals in the project vicinity and because of vast amount of similar habitat throughout the project area and in the surrounding vicinity. Because there is always potential for take, mitigation measures to reduce potential impacts to raptors to less than significant levels are included in AFC Section 5.2.9.4.3.

A summary of the project's potential impacts to special-status bats was provided earlier in Table BR-1. Since project impacts to special-status bat species would be less-than-significant, no further mitigation is required.

A jurisdictional determination is being processed through the U.S. Army Corp of Engineers. A plan to mitigate both temporary and permanent impacts will be developed once the jurisdictional determination is received. (See also Response "2. ***State Waters Impacts [Appendix B(g)(13)(A)(v)]"*** above***.)***

b. Please identify who was contacted regarding compensatory mitigation.

Response— For species other than the Desert Tortoise, no contact with resource agencies has been made to discuss additional mitigation as the impacts to those species are less than significant. Regarding Desert Tortoise, the Section 7 consultation process with US Fish and Wildlife Service (USFWS) in coordination with CDFG, CEC and BLM is the appropriate venue for further discussions of Desert Tortoise issues.

8. Monitoring Compliance Effectiveness [Appendix B(g)(13)(G)]

A discussion of compliance and monitoring programs to ensure the effectiveness of impact avoidance and mitigation measures incorporated into the project.

Information required for the AFC to conform to the regulations:

Please provide a discussion of proposed mitigation effectiveness monitoring for desert tortoise, western burrowing owl, special status plants, Nelson's bighorn sheep foraging habitat, kit fox, golden eagle foraging habitat, special status bats, state waters, and impacts to avian species from the power tower and other structures.

Response—The purpose of the effectiveness monitoring required is to produce data for the use in the adaptive management process. This process will monitor the effectiveness of mitigation measures and help develop modifications that will increase effectiveness. The US Department of the Interior employs Adaptive Management in situations where it "helps managers address resource issues by providing the flexibility to adjust management actions as additional understanding is gained. It can help determine whether management actions are having desired effects and whether mitigation measures are cost effective." (Williams et al., 2009) References to the adaptive management process are found in AFC Section 5.2.9; specifically in Mitigation Measure 2, paragraph 16 and Mitigation Measure 6.

Adaptive Management is a well-established process. It is an iterative process by which the results of implanted actions are monitored and assessed in order to modify future actions, as needed. The general steps of adaptive management are assessment of the problem, design of a science-based measure, implementation, monitoring, evaluation and adjustment, as needed. The implementation of the measures is an inherent part of the process and is documented by the monitoring and reporting effort. Additional information on this process is available in Williams et al. (2009).

Reference:

Williams, B. K., R. C. Szaro, and C. D. Shapiro. 2009. Adaptive Management: The U.S. Department of the Interior Technical Guide. Adaptive Management Working Group, U.S. Department of the Interior, Washington, DC.

9. Contact with State & Federal Agencies regarding Permits [Appendix B(g)(13)(H)]

Submit copies of any preliminary correspondence between the project applicant and state and federal resource agencies regarding whether federal or state permits from other agencies such as the U. S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Game (CDFG), and the Regional Water Quality Control Board (RWCB) will be required for the proposed project.

Information required for the AFC to conform to the regulations:

Please contact CDFG regarding Lake and Streambed Alteration Agreement and 2081 permit and the Ventura Field Office for the USFWS regarding Section 7 consultation. Please provide a copy of any record of conversation and/or letter the applicant has sent to these agencies regarding the proposed project and any response to these communications.

Response— Pursuant to the Warren-Alquist Act, the CEC's power plant siting process preempts the issuance of permits by local and state agencies, including the CDFG. In a recent project licensed by the CEC (Almond 2 Power Plant, 09-AFC-2), the Applicant was instructed to submit a Lake and Streambed Alteration Agreement Notification, which it did in December 2010. In March 2011, it received a form letter from CDFG stating that CDFG was going to refund the filing fee provided with the Streambed Alteration Agreement Notification. The reason stated for the refund was:

> "Notification was not required because your project is under CEC authority; and therefore, is not subject to the notification requirement in Fish and Game Code section 1602."

Given this response from CDFG, the Applicant intends to work with the CDFG through the CEC's siting process, rather than submit separate 1602 and 2081 applications to CDFG.

Consultation with the USFWS under Section 7 of the Endangered Species Act will be initiated by the Bureau of Land Management Southern Nevada District Office, in Las Vegas for issuance of the transmission line and gas pipeline right-of-way permits in Nevada and the connected action of the construction of the solar generating system in California. An initial field meeting with BLM and the CEC was held on March 17, 2011. Notes from that meeting are provided as Attachment BR-4.

10. Agency Contact Info [Appendix B(i)(2)]

The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.

Information required for the AFC to conform to the regulations:

Please update Table 5.2-14 to include the CDFG and USFWS (Ventura Field Office) contacts.

Response— The contact for USFWS is in the Southern Nevada Field Office, which the Service selected to conduct the Section 7 consultation with the BLM Southern Nevada District Office, in Las Vegas, for issuance of the transmission line and gas pipeline right-of-way permits in Nevada and the connected action of the construction of the solar generating system in California. That contact information is included in Table 5.2-14.

INSERT ATTACHMENT BR-1, REVISED Wetland Delineation Figures

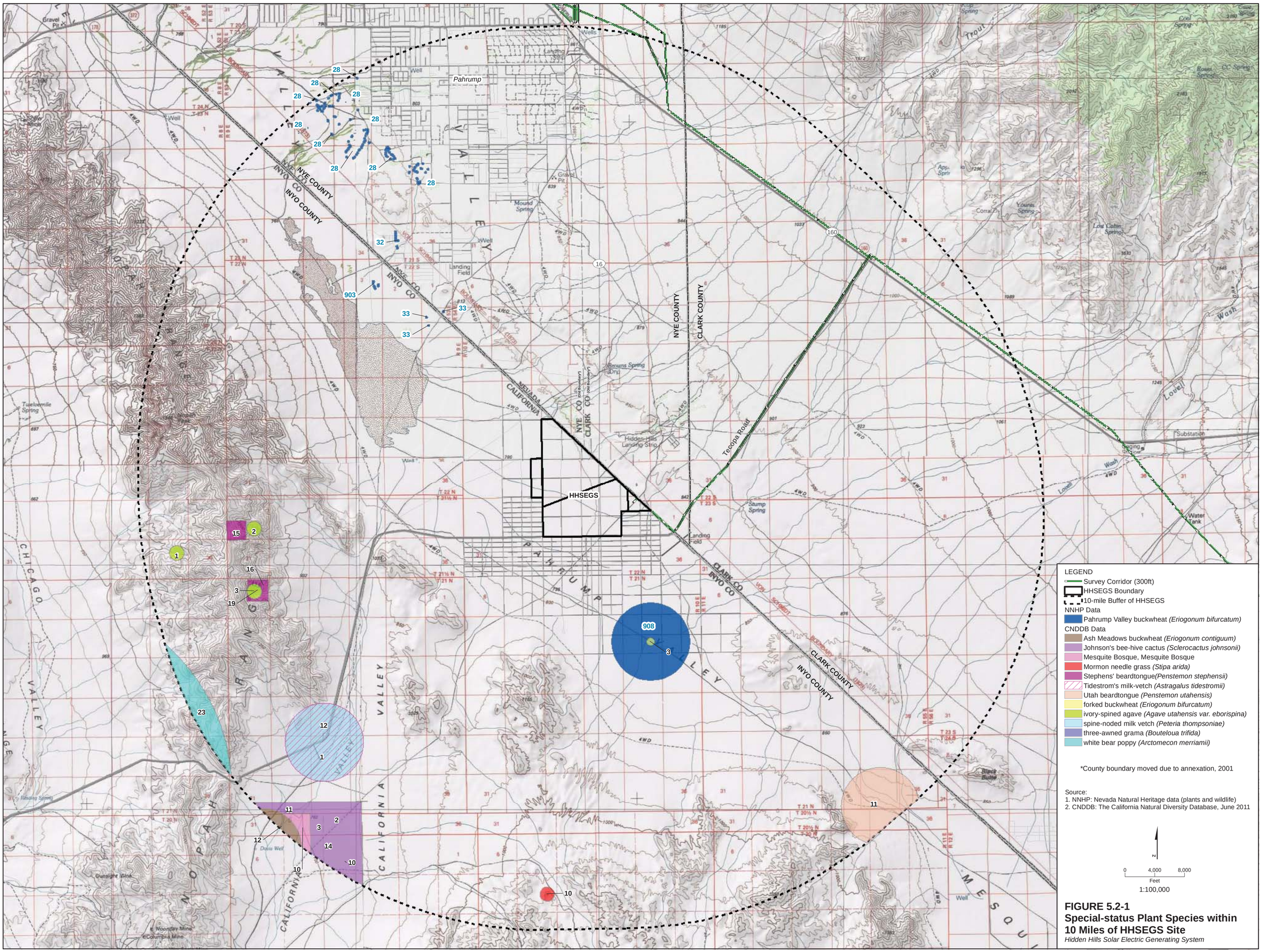


FIGURE 5.2-1
Special-status Plant Species within 10 Miles of HHSEGS Site
Hidden Hills Solar Electric Generating System

SAC \\ZION\SACGIS\PROJ\SOLARPROJECTS\HIDDENHILLS\MAPFILES\2011_HIDDENHILLS\AFC_MAPS\BIOLOGY\NNHP_CNDDB_MAP_PLANTS_RESCALE.MXD SSCOPES 8/30/2011 10:19:36 AM

CH2MHILL

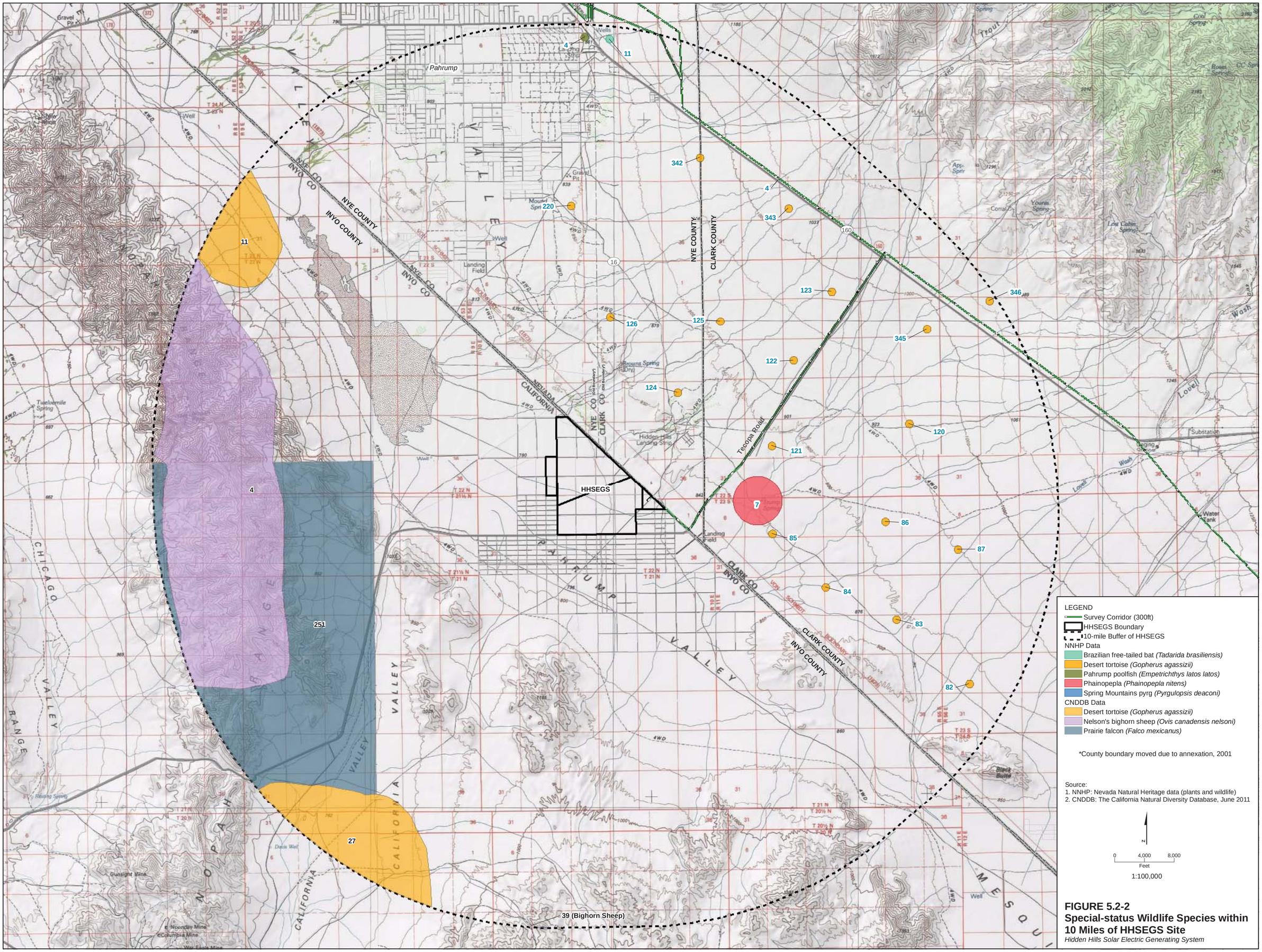


FIGURE 5.2-2
Special-status Wildlife Species within 10 Miles of HHSEGS Site
Hidden Hills Solar Electric Generating System

Attachment BR-2
CNDDB Verification

Carrier, John/SAC

From: Manydogs10@aol.com
Sent: Thursday, September 01, 2011 1:31 PM
To: Parker, Karen/SAC; Carrier, John/SAC
Cc: Marble, James/SCO
Subject: Hidden Hills CNDDB

Karen and John,

Please consider this as confirmation that as of September 1, 2011 all data on sensitive species has been submitted to the CNDDB for the desert tortoise survey conducted on the Hidden Hills site during April and May 2011.

Mercy Vaughn

Sundance Biology, Inc.
179 Niblick Rd. PMB 272
Paso Robles, CA 93446
928-380-5507
manydogs10@aol.com

INSERT ATTACHMENT BR-3, Biologist Resumes

Attachment BR-4
Records of Conversations with Agencies

CH2MHILL TELEPHONE CONVERSATION RECORD

Call To: Jeff Villepique
CDFG

Phone No.: (760) 937-5966 **Date:** May 04, 2011

Call From: Jim Marble **Time:** 11:45 am

Message Taken By: Marble, James/SCO

Subject: Hidden Hills Ranch Eagle Survey Conflicts with Bighorn Sheep Lambing

Project No.: **420246**

I explained that we needed to conduct eagle and raptor surveys. We would use helicopters, if possible. I asked if there were any populations of bighorn sheep (*Ovis canadensis nelsoni*) in the south Nopah Range or the Kingston Range near Calvada Springs in Inyo County, California.

2:22 pm

After some research, he called to say that they are present in both ranges and the CDFG has a rule precluding helicopter surveys in bighorn sheep lambing areas. He said that CDFG and US Fish and Wildlife Service have not worked out the conflict between eagle surveys and lambing.

Mr. Villepique said that helicopter inventories after weaning would be no problem. He said that if we send a photo of a lamb with a date, he can estimate the age from the photo and estimate when it will be weaned. However, lambs are not weaned for 6 months. Eagle eggs and lambs start to appear in January in this warm southern California area. Lambs are born into April and May, depending on the weather of the year. Weaning may start in June but may not occur until as late as November.

Helicopter inventory in the fall will identify nests, but not establish productivity. Surveys in the nesting and lambing season would have to be without helicopters.

Meeting Notes: March 17, 2011

Hidden Hills Ranch – Biology Field Protocols Review Site Visit

List of Attendees:

BLM:
Katie Kleinick/GBI-BLM
Mark Slaughter/BLM

BSE:
Clay Jensen/BSE
Nick Jacobs/BSE
Amanda McCoy/BSE
Tracie Wheaton/BSE

CEC:
David Bise/CEC
Kathleen Forrest/CEC
Eric Knight/CEC
Mike McGuirt/CEC Cultural Resources
Rick York/CEC

CH2M HILL:
John Carrier/ CH2M HILL
Amy Hiss/CH2M HILL
Geof Spaulding/ CH2M HILL
Mercy Vaughn/SBI-CH2M HILL
Ann Howald/ GANDA-CH2M HILL

Clay Jensen: overview of the project – Site is ~3,100 acres. Site itself is private property – located in Inyo County. Property is owned by the Wiley Trust and was formerly a master planned community. Property has been split into 20-acre parcels. The roads are visible on the aerial photographs of the site. The development failed to move forward due to the economy.

Project consists of two, 250 MW solar plants, with two towers (one per plant) that are 750 feet high (280 feet taller than at ISEGS). Site is located 10 miles from Tacopa Road and Hwy 160. The transmission line extends from the construction logistics area (CLA) to the Eldorado substation. CEC is the lead agency (valley electric is provider) to the state line. In Nevada, BLM will be the federal lead agency for the project.

The Project will include a T-line corridor and to the Eldorado substation. BLM will be the lead for the Section 7 consultation process.

The site is within a large watershed, with flood zones to the north and south, and they fan out to drain around the site. The site does not have large network of washes and the drainages do not directly connect to the dry lake bed to the west. A wetland delineation report is being submitted to the USACE. Based on some limited discussions to date, it sounds like the site won't be within USACE jurisdiction (even though there is an interstate connection). Based on case history, the Ventura office of the USACE does not consider interstate waters to be a nexus.

Rick York: these could be waters of the state though. Has seen some reports not prepared per the latest guidelines so the work has had to be done over.

Clay J./Tracie Wheaton – there will be two environmental documents to comply with NEPA and CEQA. The CEC will incorporate local and state permits and approvals into the CEC process. The CEQA document will describe the T-line located in Nevada, but the CEC will not be issuing conditions of certification (COCs) that pertain to the portion of the project located in Nevada.

Open for general discussion on procedures and protocols to follow.

Bird point counts: what guidance to follow? Mark Slaughter: don't do point counts on the linears. Guidance from Ray? Rick York to send email to John Carrier about survey protocols.

CDFG guidelines will be followed for burrowing owls. Rick York: be sure to include a buffer since impacts don't stop at the state line. Mercy Vaughn: 150-meter buffer is too large for this project. Can see a 50-meter buffer as being more reasonable.

Ann Howald: overview of botany work conducted to date. May 2010 reconnaissance, fall protocol level survey in 2010, site has pale silty lake bed sediments, with shadscale scrub and Mojave creosote bush scrub vegetation. A disturbed area dominated by tumbleweeds in the north. Several noxious weeds found, halogeton, African mustard, others. Found two special-status plants onsite: forked buckwheat and Goodding's phacelia. Two other special-status plants found adjacent to the site – and these may also be found onsite in the spring. We would like to use intuitive-controlled survey protocols this spring (instead of straight line transects). Rare plants expected to occur are annuals, and these surveys would work well for the site given these are annuals and access is very good. We are proposing point mapping with abundance mapping for the weeds. Both CEC and BLM want weeds controlled and there will need to be a weed management plan.

This rare plant survey approach is good per Mark Slaughter and Rick York.

Amy Hiss: also including some surveys of adjacent areas in southern Pahrump Valley and elsewhere – are finding more rare plants than previously documented and lack of documentation makes it sound like they are more rare than they really are. In the CEC's CEQA document, they will look at the percentage of localities impacted compared to those in the CNDDB. Rick recommends submitting our data into the CNDDB to get more documented localities into the database.

Rick York – survey procedures sound like they are appropriate.

Mark Slaughter: intuitive controlled survey procedures sound OK to Mark, but from BLM's perspective, we need to talk with BLM botanist –Fred Edwards about protocols.
Tracie Wheaton to set up a call. Need to talk with Fred about the linears and about weed

surveys but what we are describing sounds good to him. Fred's email is fred_edward@blm.gov.

Early coordination and involvement with the Native American tribes is planned for this project. Also, KOPs picked for roads not sensitive resources or receptors.

Desert tortoise. 100 percent coverage surveys will be needed. Mercy – translocation plan will be needed even if there is only one tortoise. BLM was unaware of that. Will need assessment of where to move tortoises, and need estimate of numbers to be moved.

USFWS – will this be Ray Bransfield or USFWS Las Vegas? Mark Slaughter to talk to Mike Burroughs at USFWS. He will decide which office will take jurisdiction over the project. BLM: minimization measures from the CEC will overflow to the BLM NEPA document.

Mercy Vaughn: translocation areas have to be in CA for site impacts. There is an HCP in place for impacts in Clark County. Section 7 procedures have to migrate over to private property. Best to put tortoises onto BLM land. She thinks it's best to come up with acreage now to at least look at secured lands (e.g., ACEC) – not just on multiple use land. Mark Slaughter: putting tortoise in translocation lands will be a wasted effort.

Mercy Vaughn: Habitat has to be of equal of better quality to qualify as a translocation area. Note: Rick York says it is not taboo anymore to put them into preserves (might be allowed). Details on disease testing and health assessments are also very important along with other variables. Can translocate Mycoplasma positive animals in some cases. The percentage of diseased animals needs to be considered for reinitiation.

Mitigation: Wiley trust has 100,000 acres in this area, could get conservation easement on property. Keep the tortoises in their home range (preferential).

Avian protection plan will be needed. Need to work with the USFWS on golden eagle guidelines for surveys (helicopter nest surveys within 10 miles of site). Need to conduct correct notification prior to starting surveys though. BLM: plan will need adaptive management component.

Meeting Adjourned.

5.3 Cultural Resources

1. Summary of Region Ethnology & Prehistory [Appendix B(g)(2)(A)]

A summary of the ethnology, prehistory, and history of the region with emphasis on the area within no more than a 5-mile radius of the project location.

Information required for the AFC to conform to the regulations:

a. ***Prehistory****: The synthesis of the general prehistory of the Mojave Desert as a whole is sufficient as a broad introduction to the archaeology of the project area, but is insufficient to underpin the development of any research model for the pedestrian survey of the project area or as a useful context to facilitate in the interpretation of the survey results. Using the Mojave Desert prehistory as a springboard and using the cultural resources technical reports and site forms that were gathered for the appendices of the AFC, please develop a discussion of the prehistoric archaeology of the immediate project area vicinity. Explain what the archaeology looks like on the ground in the vicinity of the project area.*

Response: Appendix B of the Commission's Regulations does not require that the Application contain the additional information Staff states is "Information Required for the AFC to Conform With Regulations." The information identified by Staff as "data deficient," in this instance, is not specifically called out by Appendix B.

The additional information identified by Staff is information that Staff can and should request from the Applicant, pursuant to Section 1716 of the Commission's Regulations as "Data Requests" during the Discovery phase of this proceeding. This information can be requested formally as soon as the Application is accepted by the Commission. To expedite its response, the Applicant has already begun the process of gathering the requested information in order to provide Staff with it in a timely response as the Applicant's first set of Data Responses.

b. ***Ethnology:*** *The prefiling meeting held on August 2 with the local Native American groups, specifically the Pahrump Band of Paiute and Las Vegas Paiute Tribe, clearly indicated a spiritual connection with the Pahrump Valley and the project site. The tribal members present indicated that different bands of Paiute have traditionally utilized the area, and the AFC indicates other groups were also utilizing the area. The ethnology needs to consider (a) the use of the area by each group individually; (b) how the different groups may have interrelated; (c) how the land was being used (resource identification and utilization) and what the physical manifestations of these uses may have been or are; and (d) the religious/spiritual significance of the project site and Pahrump Valley (immediate region) to the various peoples using it. The tribal members present also indicated that burials or cremations are present; a discussion of the local Native American traditions for the disposal of the dead and likely physical remains needs to be included. Additional discussion of how the project may impact the areas in proximity to, but outside the footprint of the project site, areas that have been used traditionally by the various groups, also needs to be included.*

Response-The purpose of the August 2 meeting (held while the AFC was being printed) was to invite Native Americans to comment specifically on the completeness and

adequacy of proposed locations of Key Observation Points (KOP) for the visual analysis for HHRSEGS. It was described by CEC and BLM Staff in the introduction to the meeting on August 2 that tribal consultation for the purposes of CEQA and Section 106 of NHPA would be conducted as a separate process. As such, it was understood that separate meetings to invite input regarding traditional places and values would be held with tribes in the future. Therefore, the Applicant does not feel that it is appropriate to draw specific conclusions or attempt to interpret and relate information provided by Native Americans during the August 2 visual resources meeting in the cultural resources technical report given this meeting's specific scope. We agree the information provided by Native Americans as part of the August 2 meeting should be documented and considered as it relates to the overall Native American consultation process, but to have that information included in the technical report that was given in the context of a request for information about the adequacy of KOPs for a visual analysis would be presumptive, premature, and incomplete.

2. Literature Search Results [Appendix B(g)(2)(B)]

The results of a literature search to identify cultural resources within an area not less than a 1-mile radius around the project site and not less that than one-quarter (0.25) mile on each side of the linear facilities. Identify any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum. Literature searches to identify the above cultural resources must be completed by, or under the direction of, individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed.

Copies of California Department of Parks and Recreation (DPR) 523 forms (Title 14 CCR §4853) shall be provided for all cultural resources (ethnographic, architectural, historical, and archaeological) identified in the literature search as being 45 years or older or of exceptional importance as defined in the National Register Bulletin Guidelines, (36CFR60.4(g)). A copy of the USGS 7.5' quadrangle map of the literature search area delineating the areas of all past surveys and noting the California Historical Resources Information System (CHRIS) identifying number shall be provided. Copies also shall be provided of all technical reports whose survey coverage is wholly or partly within .25 mile of the area surveyed for the project under Section (g)(2)(C), or which report on any archaeological excavations or architectural surveys within the literature search area.

Information required for the AFC to conform to the regulations:

Include discussion of any official listing or register of cultural resources, or contact with the county regarding this issue. Also include a discussion of the Old Spanish Trail Association's status and interpretation of the section of the Old Spanish Trail adjacent to the project area.

Response— The NRHP, the California Register of Historical Resources (CRHR), California Historical Landmarks, and California Points of Historical Interest were all examined by staff at the Eastern Information Center on August 31, 2011. State and local listings were consulted for the presence of historic buildings, structures, landmarks, points of historical interest, and other cultural resources. No cultural resources were identified within the HHSEGS site.

Inyo County Planning was contacted via phone on August 31, 2011. The County does not maintain any lists of cultural resources.

The Old Spanish Trail Association (OSTA) was contacted via letter regarding the HHSEGS project on June 7, 2011. This letter included a map of the proposed project. To date, there has been no response from the OSTA regarding the HHSEGS project.

The OSTA is a non-profit IRS 501(c)(3) organization supported by chapters in each trail state (Arizona, California, Colorado, Nevada, New Mexico, and Utah), and by members at large. Per the IRS[3], "To be tax-exempt under section 501(c)(3) of the Internal Revenue Code, an organization must be organized and operated exclusively for exempt purposes set forth in section 501(c)(3)…. In addition, it may not be an *action organization,* i.e., it may not attempt to influence legislation as a substantial part of its activities and it may not participate in any campaign activity for or against political candidates. Section 501(c)(3) organizations are restricted in how much political and legislative (*lobbying*) activities they may conduct." (emphasis original)

The OSTA served as the primary federal partner for the national historic trail's planning and administration and was very involved in the public scoping process of the trail.

The Old Spanish National Historic Trail is one of 19 national historic trails in the National Trail System, which also includes national scenic and recreational trails, and was added to the National Trails System in 2002. The trail runs from northern New Mexico through Colorado, Utah, Nevada, and Arizona, to Los Angeles, California and includes approximately 2,700 miles. As the nature of historic trail use is one of mule pack trains and herds of loose stock, exact definition of the OST is problematic. The current trail has been primarily defined through an analysis of historic documentary sources, including historic maps and narrative descriptions. The Old Spanish National Historic Trail is only expressed as a physically-defined trace at a few places along the entire route. Physical traces of this road can include historic refuse, wagon ruts, or buildings associated with the trail. Additionally, the width of the trail route or corridor varies considerably due to how the trail is identified (US Department of the Interior, 2006; OSTA 2006-2011).

The OST runs south of the HHREGS within the state of California. This segment is not one of the segments identified by physical remains such as historic trash or wagon ruts. On the Nevada side of the border, the OST is formally recorded as a cultural resource, CK-NV-3848. According to maps associated with the site record for NV-CK-3848, two segments of this resource are identified by wagon ruts and historic refuse from the late 1800s. Neither of these segments, however, is located in the general vicinity of the HHSEGS site. Both segments are located just southwest of Las Vegas.

[3] http://www.irs.gov/charities/charitable/article/0,,id=96099,00.html

References:

Scoping Report -Old Spanish National Historic Trail Comprehensive Management Plan/Environmental Impact Statement. August 2006. U.S. Department of the Interior, Bureau of Land Management, New Mexico State Office, Division of Resources, National Park Service, National Trails System, Santa Fe.

Old Spanish Trail Association, 2006-2011. Electronic resource, accessed August 31, 2011, http://www.oldspanishtrail.org/about_osta.php.

3. Research Design [Appendix B(g)(2)(C)]

The results of new surveys or surveys less than 5 years old shall be provided if survey records of the area potentially affected by the project are more than five (5) years old. Surveys to identify new cultural resources must be completed by (or under the direction of) individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed.

New pedestrian archaeological surveys shall be conducted inclusive of the project site and project linear facility routes, extending to no less than 200' around the project site, substations and staging areas, and to no less than 50' to either side of the right-of-way of project linear facility routes. New historic architecture field surveys in rural areas shall be conducted inclusive of the project site and the project linear facility routes, extending no less than .5 mile out from the proposed plant site and from the routes of all above-ground linear facilities. New historic architecture field surveys in urban and suburban areas shall be conducted inclusive of the project site, extending no less than one parcel's distance from all proposed plant site boundaries. New historic architecture field reconnaissance ("windshield survey") in urban and suburban areas shall be conducted along the routes of all linear facilities to identify, inventory, and characterize structures and districts that appear to be older than 45 years or that are exceptionally significant, whatever their age.

A technical report of the results of the new surveys, conforming to the Archaeological Resource Management Report format (CA Office of Historic Preservation Feb 1990), which is incorporated by reference, shall be separately provided and submitted (under confidential cover if archaeological site locations are included).

Information included in the technical report shall also be provided in the Application for Certification, except that confidential information (archaeological sites or areas of religious significance) shall be submitted under a request for confidentiality pursuant to Title 20, California Code of Regulations, § 2501 et seq. At a minimum, the technical report shall include the following:

Information required for the AFC to conform to the regulations:

a. *Include the research design for the project, including the theoretical basis of the proposed research, a summary of the previous research, testable hypotheses/research goals, and discussion of the test implications of the expected archaeological information, as specified in ARMR (p.27). Also discuss the results of the investigations as they relate to specific research design items and general objectives.*

Response- The AFC for the HHSEGS contained a technical report as required by Appendix B. A "research design" is not a typical element of an archaeological survey report. The ARMR guidelines (p. 1, Preface) specify that "It may be unnecessary to

include all classes of information presented in this guidance in all reports. The content appropriate for any report should be determined by the type and scale of a project, by the nature and scheduling of cultural resources studies, and by the complexity of the resources and the information under consideration" (CA Office of Historic Preservation Feb 1990). The requirement for a research design (requested for Data Adequacy) is typically included in a Condition of Certification (as part of the Cultural Resources Monitoring and Mitigation Plan) and required prior to start of construction. The Applicant does not believe it is appropriate to provide information typically provided post-licensing, as a Data Adequacy requirement. The Applicant is willing to provide a research design as part of a draft Cultural Resources Mitigation and Monitoring Plan (CRMMP) in response to a data request.

b. See items above (Appendix B(g)(2)(A); Appendix B(g)(2)(B); Appendix B(g)(2)(C))

Response- It is our understanding that what the staff means by this comment is that our responses to the above-requested information, to the degree possible, should be presented in a manner available to the public. Only specific information required by law to be kept confidential, will be submitted under a request for confidentiality. This approach will be followed when submitting responses to cultural resources questions.

4. Survey Procedures [Appendix B(g)(2)(C)(ii)]

The survey procedures and methodology used to identify cultural resources and a discussion of the cultural resources identified by the survey;

Information required for the AFC to conform to the regulations:

a. It is not clearly evident in the cultural resources technical report or in the images of the cultural resources on the DPR 523 site forms how the term "desert pavement" has been defined or is being used. Staff has not traversed the project area as extensively as have the cultural resources consultants to the applicant, but on the three field visits that staff has made to the project area staff has not seen any examples of a classic desert pavement. Please identify the landforms that make up the area, the age and the depositional history of those landforms, and the character of the surficial attributes of the landforms, attributes such as desert pavements.

Response- Appendix B of the Commission's Regulations does not require that the Application contain the additional information Staff states is "Information Required for the AFC to Conform With Regulations." The information identified by Staff as "data deficient," in this instance, is not specifically called out by Appendix B.

The additional information identified by Staff is information that Staff can and should request from the Applicant, pursuant to Section 1716 of the Commission's Regulations as "Data Requests" during the Discovery phase of this proceeding. This information can be requested formally as soon as the Application is accepted by the Commission. To expedite its response, the Applicant has already begun the process of gathering the requested information in order to provide Staff with it in a timely response as the Applicant's first set of Data Responses.

b. Assuming that desert pavements do exist in the project area, research potential may, nonetheless, exist at these lithic extraction sites in terms of addressing research questions

pertaining to modes of lithic procurement and patterns of regional settlement in the Mojave Desert (see, for instance, Giambastiani 2006, 2009; Giambastiani and Basgall 1999; and Giambastiani et al. 2009). The answers to such research questions would not necessarily rely on the presence of deeply buried/stratified deposits, but rather would rely on more intensive analyses of surface and relatively shallow subsurface lithic reduction materials. Each lithic extraction area or isolated Segregated Reduction Loci (SRL) feature may not necessarily have individual value in terms of contributions to Mojave Desert prehistory. They may have more significance when the implications from a lithic extraction area are examined within a group of similar sites, located either on a specific landform or across a series of comparable landscapes (broader, multiple-property resources such as archaeological districts or landscapes, or portions thereof).

Response- Appendix B of the Commission's Regulations does not require that the Application contain the additional information Staff states is "Information Required for the AFC to Conform With Regulations." The information identified by Staff as "data deficient," in this instance, is not specifically called out by Appendix B.

The additional information identified by Staff is information that Staff can and should request from the Applicant, pursuant to Section 1716 of the Commission's Regulations as "Data Requests" during the Discovery phase of this proceeding. This information can be requested formally as soon as the Application is accepted by the Commission. To expedite its response, the Applicant has already begun the process of gathering the requested information in order to provide Staff with it in a timely response as the Applicant's first set of Data Responses.

c. Discuss in detail why the sites on the project site, many of which are noted to have no additional research potential due to the presence of desert pavement, would or would not contribute to the research questions above. If the applicant decides to reconsider the position about the research potential of desert pavement lithic extraction sites, please determine which the data sets from the subject sites may be germane and re-evaluate those sites in light of the new information.

Response- Appendix B of the Commission's Regulations does not require that the Application contain the additional information Staff states is "Information Required for the AFC to Conform With Regulations." The information identified by Staff as "data deficient", in this instance, is not specifically called out by Appendix B.

The additional information identified by Staff is information that Staff can and should request from the Applicant, pursuant to Section 1716 of the Commission's Regulations as "Data Requests" during the Discovery phase of this proceeding. This information can be requested formally as soon as the Application is accepted by the Commission. To expedite its response, the Applicant has already begun the process of gathering the requested information in order to provide Staff with it in a timely response as the Applicant's first set of Data Responses.

5. Resource Evaluations [Appendix B(g)(2)(C)(iii)]

Copies of all new and updated DPR 523(A) forms. If a cultural resource may be impacted by the project, also include the appropriate DPR 523 detail form for each such resource;

Information required for the AFC to conform to the regulations:

Include evaluations for each resource for the purposes of CEQA, including whether a resource is eligible for the California Register of Historical Resources (CRHR), eligible for listing or listed in a local register, or whether it would be a historical resource for the purposes of CEQA. Include a discussion of how it does/doesn't meet each criteria and a discussion of the integrity of the resource. Also include the photographs noted in the included photograph logs.

Response- The Application contains all of the information requested by Appendix B. Specifically, the information required by Appendix B (g)(2)(C)(iii), copies of all new and updated DPR 523(A) forms, is set forth in the AFC in Appendix 5.3B.

Appendix B of the Commission's Regulations does not require that the Application contain the additional information Staff states is "Information Required for the AFC to Conform to the Regulations." The information identified by Staff as "data deficient," in this instance, is not specifically called out by Appendix B.

The additional information identified by Staff is information that Staff can and should request from the Applicant, pursuant to Section 1716 of the Commission's Regulations as "Data Requests" during the Discovery phase of this proceeding. This information can be requested formally as soon as the Application is accepted by the Commission. However, it should be noted that the Applicant is in the process of updating and revising the DPR 523(A) forms consistent with Staff's comments in order to provide Staff with the requested information as the Applicant's first set of Data Responses.

6. Cultural Resource Specialist Qualifications [Appendix B(g)(2)(C)(v)]

The names and qualifications of the cultural resources specialists who contributed to and were responsible for literature searches, surveys, and preparation of the technical report

Information required for the AFC to conform to the regulations:

Include the resumes for Gabriel DuPree, Dan Ewers, Erik Peters, Dmitra Chase, Ryan Rolston, Kurt Lambert, Erica Maier, Eric Hall, Humphrey Calicher, Jesse Shelmire

Response-Resumes of the above-referenced archaeologists are provided in Attachment CR-1.

7. Educational Programs [Appendix B(g)(2)(E)(iii)]

Educational programs to enhance employee awareness during construction and operation to protect cultural resources.

Information required for the AFC to conform to the regulations:

Generally discuss educational programs to enhance awareness during <u>operation</u> to protect cultural resources, should any resources be discovered during construction.

Response- Construction worker sensitivity training is proposed in AFC Section 5.3.6.2.

That program will also be used during plant operations. It would be modified if necessary, to reflect discoveries encountered during construction. The worker sensitivity training will be provided to each worker as part of their environmental, health, and safety training. The training will be presented in the form of a written brochure and will

include photographs of various types of historic and prehistoric artifacts. It will also explain the importance of, and legal basis for, the protection of significant archaeological resources, as well as the penalties for violations. The training will also include information or requirements of any mitigation measures implemented during construction.

8. Permits [Appendix B(i)(1)(B)]

Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.

Information required for the AFC to conform to the regulations:

Include required table

Response- Agencies with authority to issue permits is provided in Table CR-1.

TABLE CR-1
Permits Required and Permit Schedule for Cultural Resources

Permit	Agency Contact	Schedule
BLM State Office California Cultural Resource Use Permit	BLM James Shearer Archaeologist Barstow Field Office 2601 Barstow Road Barstow, CA 92311 (760) 252-6034 JShearer@BLM.gov	Prior to field survey.
BLM State Office Nevada Cultural Resource Use Permit	BLM Kathleen Sprowl Archaeologist 4701 N. Torrey Pines Dr Las Vegas, NV 89130 (702) 515-5055 email: kathleen_sprowl@blm.gov	Prior to field survey
ARPA Permit; Archaeological Resources Protection Act (ARPA) of 1979, as amended Section 4	BLM James Shearer Archaeologist Barstow Field Office 2601 Barstow Road Barstow, CA 92311 (760) 252-6034 JShearer@BLM.gov	This permit would be needed if subsurface investigations are needed to identify the National Register of Historic Places significance of an identified site in California

TABLE CR-1
Permits Required and Permit Schedule for Cultural Resources

Permit	Agency Contact	Schedule
ARPA Permit; Archaeological Resources Protection Act (ARPA) of 1979, as amended Section 4	BLM Kathleen Sprowl Archaeologist 4701 N. Torrey Pines Dr Las Vegas, NV 89130 (702) 515-5055 email: kathleen_sprowl@blm.gov	This permit would be needed if subsurface investigations are needed on BLM land in Nevada to identify the National Register of Historic Places significance of an identified site in Nevada

9. Agency Contact Information [Appendix B(i)(2)]

The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.

Information required for the AFC to conform to the regulations:

Include contacts at the local level

Response-Please add the following row to AFC Table 5.3-8.

TABLE 5.3-8
Agency Contacts for Cultural Resources

Issue	Agency	Contact
Inyo County General Plan	Inyo County Planning Department	Josh Hart Planning Director P. O. Drawer L 168 N. Edwards Street Independence, California 93526 (760) 878-0263 email: jhart@inyocounty.us

.

INSERT ATTACHMENT CR-1, Archaeological Resumes

5.6 Land Use

1. Legal Status of Parcel [Appendix B(g)(3)(C)]

A discussion of the legal status of the parcel(s) on which the project is proposed. If the proposed site consists of more than one legal parcel, describe the method and timetable for merging or otherwise combining those parcels so that the proposed project, excluding linears and temporary laydown or staging area, will be located on a single legal parcel. The merger need not occur prior to a decision on the Application but must be completed prior to the start of construction.

Information required for the AFC to conform to the regulations:

The AFC lists assessor's parcel numbers and there is mention of the applicant's proposed merger/subdivision or reversion to acreage map but there is no discussion of the method or timetable of the merger/reversion to acreage or how many parcels would be involved.

Please provide a discussion of the legal status of the parcel(s) on which the project is proposed. Please describe the method and timetable for merging or otherwise combining those parcels so that the proposed project, excluding linears and temporary laydown or staging area, will be located on a single legal parcel.

Response – The HHSEGS site currently consists of 172 legally created parcels. In order to create one legal parcel, excluding the linears and temporary laydown or staging area, a Reversionary Map in accordance with the California Subdivision Map Act, Chapter 6, Article 1, "reversion to acreage" will need to be prepared. Once the Reversionary Map is prepared, it will be submitted to the Inyo County for review and comment. Prior to submittal to the County, all parcels to be included in the Reversionary Map will need to be in common ownership. The estimated timeframe for review, comment, and processing time by the County is expected to run between 90 and 120 days.

Once the Inyo County has performed its review process and all comments are addressed, the Reversionary Map can be recorded and the reverted acreage for the Hidden Hills project area would be in one lot containing approximately 3,089 acres, less any required right-of-way. The recordation of the Reversionary Map will be done through the Inyo County Recorder's Office.

It has not yet been determined whether the reversion will result in one single legal parcel, or more than one parcel. It is important to note that the Applicant holds a leasehold interest in the project site. As described in AFC Section 2.1.3, "Project Ownership":

> Hidden Hills Solar I, LLC, and Hidden Hills Solar II, LLC, will each own its respective solar plant individually, and together the entities will own the shared facilities located on the common area as tenants in common. Hidden Hills Solar I, LLC, and Hidden Hills Solar II, LLC, will hold leasehold

> interests in privately held land located in the Mojave Desert between Death Valley and the California-Nevada border as the site for their respective solar plants and the common area. The land is owned by The Roland John Wiley Trust, The Mary Wiley Trust, and Section 20, LLC, and is currently under options to lease with BrightSource. (AFC, Project Description, pp. 2.5 to 2.6.)

Given the leasehold interest, in general, and given three distinct legal entities with an interest in the project site (Hidden Hills Solar I, LLC, and Hidden Hills Solar II, LLC, individually, and collectively as tenants in common for the common area), reversion may result in three or more parcels. In addition, merger is typically required where a building or a structure crosses a property line between two parcels under common ownership. It is not clear however, where the development consists of a field of heliostats that merger is required under either the County development ordinances or under the Subdivision Map Act. Given that Staff concurs action "need not occur prior to a decision on the Application," Staff and Applicant will address this issue through the Data Request and Data Response process.

The process, if applicable, will be started immediately after the project certification is final and no longer subject to further administrative challenge or judicial review.

5.12 Traffic and Transportation

1. Road Classification and Design Capacity [Appendix B(g)(5)(C)(i)]

Road classification and design capacity;

Information required for the AFC to conform to the regulations:

Please provide road classification and design capacity.

Response – The traffic analysis is focused on State Route (SR) 160 since this is the major regional access road in the area and the majority of the project will use this roadway. SR 160 is currently designated as a Rural Major Collector by the Nevada Department of Transportation (NDOT) within the vicinity of the project site. The capacities used to evaluate SR 160 are based on review of the designated functional classification and general application of the 2000 Highway Capacity Manual criteria (Transportation Research Board, 2000). The roadway classification, design capacity and existing AADT and LOS for SR 160 near the project site are presented below. The maximum design AADT capacity represents LOS E conditions, which are defined as unstable operation with significant delays. As shown below, SR 160 currently operates at LOS A within the vicinity of the project site.

TABLE TT-1
Existing* (2009) Roadway Level of Service

Roadway Segment	Classification	Existing AADT	Design Capacity	Existing V/C & LOS
SR 160- Approximately 16 miles west of SR 159	Rural Major Collector	8,900 AADT	15,000 AADT	0.59/LOS A

*2009 AADT obtained from NDOT

2. Weight and Load Limitations [Appendix B(g)(5)(C)(iv)]

Weight and load limitations;

Information required for the AFC to conform to the regulations:

Please provide weight and load limitations

Response- The Inyo County Code and the Clark County Code do not include weight/load limits for roadways. However, the Nevada Department of Transportation states that a vehicle is oversized/overweight and would require a permit to use any NV roadway if it:

- Exceeds 80,000 pounds gross weight; or
- Exceed 8 feet, 6 inches in width; or
- Exceed 14 feet in height; or

- Exceed 10 feet of front or rear overhang; or
- Exceed 70 feet in length.

Additionally, the California Vehicle Code, Sections 35100-35559, specify limits for vehicle width, height, length, and gross weight. Specifically, Section 35550 states: "The gross weight imposed upon the highway by the wheels on any one axle of a vehicle shall not exceed 20,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle, and resting upon the roadway, shall not exceed 10,500 pounds.

3. Road Features [Appendix B(g)(5)(C)(vi)]

An identification of any road features affecting public safety.

Information required for the AFC to conform to the regulations:

Please provide an identification of any road features affecting public safety

Response – No road features have been identified with the potential to affect public safety. Sight distance at the project driveway on Tecopa Road is sufficient to accommodate ingress and egress to the site. The majority of the construction trips will travel through the Tecopa Road and SR 160 intersection, which also provides good visibility from all directions.

4. Hazardous Materials [Appendix B(g)(5)(E)]

A discussion of project-related hazardous materials to be transported to or from the project during construction and operation of the project, including the types, estimated quantities, estimated number of trips, anticipated routes, means of transportation, and any transportation hazards associated with such transport.

Information required for the AFC to conform to the regulations:

Please provide a discussion of project-related hazardous materials to be transported to or from the project during construction and operation of the project, including the types, estimated quantities, estimated number of trips, anticipated routes, means of transportation, and any transportation hazards associated with such transport.

Response – Hazardous materials to be used during construction of the project and its associated linear facilities will include gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. These materials are the usual materials used during construction of an industrial facility and do not include especially dangerous or hazardous materials. Some, such as fuels, will be delivered in bulk shipments by tanker truck. These are included in Table TT-2 below. Some specialty materials will be transported by the construction contractors at irregular frequencies, depending on the stage of construction work. Therefore, transport of hazardous materials during construction is anticipated to be minor.

Hazardous materials that will be delivered periodically to the project site (during the operation phase) are also presented in Table TT-2.

TABLE TT-2
Delivery Schedule for Hazardous Materials

Trade Name	Chemical Name	Delivery Frequency (weekly, monthly, etc)	Quantity transported per shipment	Transportation Mode (e.g., truck, tanker, rail)	Notes
Cleaning chemicals/detergents	Various	monthly	55 gallons (operation)	truck	
Diesel No. 2	Oil	daily	2,400 gallons (construction) 2250 gallons (operation)	truck	During construction diesel is consumed by onsite generators, compressors, high lifts, lights, etc. During operation diesel is consumed by mirror washing machines.
Gasoline	Gasoline	daily	2,400 gallons (construction) Not stored onsite during operation		
Hydraulic oil	Oil	one time fill	1,000 gallons (operation)	truck	Contained within the hydraulic skid
Hydraulic oil	Oil	annual replacement	1,000 gallons (operation)	truck	
Lubrication oil	Oil	one time fill	10,000 gallons (operation)	truck	Contained within the lube oil skid
Lubrication oil	Oil	annual replacement	10,000 gallons (operation)	truck	
Mineral insulating oil	Oil	one time fill, replacement not required	50,000 (operation)	truck	Contained within transformers
Oxygen scavenger (Cortrol OS5607)	Carbonic Dyhdrazide (5-10%)	3 months	200 gallons (operation)	truck	
Sodium Hydroxide Solution	Sodium hydroxide (30%)	3 weeks	300 gallons (operation)	truck	

TABLE TT-2
Delivery Schedule for Hazardous Materials

Trade Name	Chemical Name	Delivery Frequency (weekly, monthly, etc)	Quantity transported per shipment	Transportation Mode (e.g., truck, tanker, rail)	Notes
Steam Condensate Treatment (Steamate NA1321)	Ammonium Hydroxide (30-60%)	2 months	300 gallons (operation)	truck	
Sulfur hexafluoride (gas)	Sulfur hexafluoride	one time fill	1324 pounds (operation)	truck	Contained within generator circuit breakers and switch yard circuit breakers
Sulfur hexafluoride (gas)	Sulfur hexafluoride (gas)	annual charge	30 pounds (operation)	truck	
Sodium hypochlorite	Sodium Hypochlorite (12.5%)	6 months	200 gallons (operation)	truck	
Acrylate Terpolymer (Gengard GN7004)	Acrylate Terpolymer (15-40%)	6 months	100 gallons (operation)	truck	

Transportation of the above materials [during both construction and operations] will occur over prearranged routes and will comply with the applicable regulations for transporting hazardous materials, including the U.S. Department of Transportation, EPA, California Department of Toxic Substances Control, California Highway Patrol (CHP), and California State Fire Marshal. Specifically, California Vehicle Code sections 31303 and 32105 require that hazardous materials be transported along the shortest route possible and that transporters obtain a Hazardous Materials Transportation License from the CHP. The hazardous materials will likely be delivered from Las Vegas, via SR 160 to Tecopa Road.

5. Agency Contact Information [Appendix B(i)(2)]

The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.

Information required for the AFC to conform to the regulations:

Please provide the name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.

Response – The Nevada Department of Transportation (NDOT) was consulted in March 2011 to discuss potential project impacts to the intersection at SR 160 and Tecopa Road. Specifically, the following person was contacted.

Kent Sears, District Traffic Engineer
Nevada Department of Transportation
123 E Washington / PO Box 170
Las Vegas, NV 89125-0170
702-385-6500
ksears@dot.state.nv.us

5.13 Visual Resources

1. Landscaping Plan [Appendix B(g)(6)(H)]

If any landscaping is proposed to reduce the visual impacts of the project, provide a conceptual landscaping plan at a 1:40 scale (1″=40′). Include information on the type of plant species proposed, their size, quantity, and spacing at planting, expected heights at 5 years and maturity, and expected growth rates.

Information required for the AFC to conform to the regulations:

Please provide a conceptual landscaping plan at a 1:40 scale (1″=40′), as identified in the AFC to address visual impacts to viewers from Tecopa Road and the Charleston View residential area. Include information on the type of plant species proposed, their size, quantity, and spacing at planting, expected heights at 5 years and maturity, and expected growth rates.

Response— A conceptual landscaping plan has been prepared and is provided as Attachment VR-1.

5.14 Water Resources

1. Alternate Water Supplies [Appendix B(g)(14)(C)(i)]

Source(s) of the primary and back-up water supplies and the rationale for their selection;

Information required for the AFC to conform to the regulations:

Provide a discussion of alternate water supplies. The AFC describes specifically how if allocated rights are exercised, the basin may not provide sustainable yield to users. No water supplies were identified that may be used as a backup if the proposed mitigation of retiring existing water rights is not feasible.

Response— The availability of alternative water supplies was discussed in AFC Section 6.6, Water Supply Alternatives. As described in that section, there are no other available water supplies. Onsite groundwater storage tanks would allow for limited supply (approximately 100,000 gallons as described in AFC Section 2.2.4), but there is no feasible alternative supply that could be used as a backup (e.g., in the event of a power outage that prevented onsite groundwater pumping).

The hydrogeology of the Pahrump Valley groundwater basin is complex and the project site's connectivity to the larger basin not fully understood, but the Hidden Hills Project Interim Assessment Report (AFC Attachment 5.15D) clearly demonstrates that groundwater underlying the project site is available in sufficient quantities to meet project demands. The analysis shows that the project's use of groundwater may result in offsite impacts on existing domestic pumpers south of the project site and potentially throughout the larger groundwater basin (AFC Appendixes 5.15F and 5.15G). However, the AFC states that the Applicant will work with water service providers and domestic well users in Nevada to develop water conservation and efficiency measures to offset its pumping. Many options are available to achieve this goal. The Applicant, however, does not agree that mitigation feasibility is appropriate to discuss as part of the data adequacy review process.

2. Mitigation for Water Use [Appendix B(g)(14)(C)(vi)]

For all water supplied which necessitates transfers and/or exchanges at any point, identify all parties and contracts/agreements involved, the primary source for the transfer and/or exchange water (e.g., surface water, groundwater), and provide the status of all appropriate agencies' approvals for the proposed use, environmental impact analysis on the specific transfers and/or exchanges required to obtain the proposed supplies, a copy of any agency regulations that govern the use of the water, and an explanation of how the project complies with the agency regulation(s);

Information required for the AFC to conform to the regulations:

Provide contract or other assurance that mitigation for water use is possible.AFC clearly defines overdraft in the basin, without any specific mitigation. If agricultural land can be retired to offset project water use, an indication of location and viability is necessary.

Response—Appendix B(g)(14)(C)(vi) does not require a contract or other assurance that mitigation for water use is possible. Data adequacy requires this information for all water supplied that necessitates transfers and/or exchanges. There are no transfers and/or exchanges proposed for the project water supply.

3. Groundwater Quality [Appendix B(g)(14)(E)(i)]

The effects of project demand on the water supply and other users of this source including, but not limited to, water availability for other uses during construction or after the power plant begins operation, consistency of the water use with applicable RWQCB basin plans or other applicable resource management plans, and any changes in the physical or chemical conditions of existing water supplies as a result of water use by the power plant;

Information required for the AFC to conform to the regulations:

Describe potential changes in groundwater quality due to project pumping. Basin water quality variation should described both vertically within the aquifer and across it areal extent.

Response—The potential changes to groundwater quality are addressed in Attachment WR-1, which concludes that there will be no changes in groundwater quality due to project pumping

4. Hydrologic Setting [Appendix B(g)(14)(B)]—Applicant's Post-AFC Filing Correction

A detailed description of the hydrologic setting of the project. The information shall include a narrative discussion and on maps at a scale of 1:24,000 (or appropriate scale approved by staff), describing the chemical and physical characteristics of the following nearby water bodies that may be affected by the proposed project:

Following submission of the AFC it was discovered that an error had been made in AFC Appendix 5.15E, Postconstruction Hydrology Analysis. The only substantive change was to revise the amount of impervious surface from 14.5 percent to 27.5 percent. This change does not change the conclusions of the Water Resources Section. A revised Postconstruction Hydrology Analysis is provided as part of this Supplement, as Appendix 5.15ER. Due to the size of the report, five copies are being submitted under separate cover to the CEC. An electronic copy will be provided upon request.

Attachment WR-1
Technical Memorandum on Groundwater Quality

Appendix 5.15ER
Post Construction Hydrology