

CALIFORNIA ENERGY COMMISSION
REPORT OF CONVERSATION

DOCKET

11-AFC-2

DATE SEP 20 2011

RECD. SEP 20 2011



*Siting, Transmission and
 Environmental Protection Division*

FILE: 11-AFC-2

PROJECT TITLE: Hidden Hills Solar Electric
 Generating System (HHSEGS)

Telephone: 916-654-4894		Meeting Location: Sacramento	
NAME: Mike Monasmith Staff Project Manager		DATE: 9-20-11	TIME: 11:00 a.m.
WITH:	Susan Strachan, Applicant Project Manager/Strachan Consulting		
SUBJECT:	Data Adequacy Response / Information Sharing meetings on 9/14/11 and 9/19/11		

On September 2, 2011, Energy Commission staff recommended that the HHSEGS AFC (filed on 8/5/11) was "data inadequate" in nine (9) of 22 technical disciplines, and that additional information from the applicant would be required before the 12-month power plant licensing process could commence: http://www.energy.ca.gov/sitingcases/hiddenhills/documents/2011-09-02_Data_Adequacy_Recommendations_TN-62076.pdf

On September 9, 2011, the applicant filed AFC Supplement A to address these nine (9) data inadequacies (Air Quality, Biological Resources, Cultural Resources, Efficiency, Land Use, Traffic and Transportation, Transmission System Design, Visual Resources and Water): http://www.energy.ca.gov/sitingcases/hiddenhills/documents/applicant/2011-09_Hidden_Hills_Applicant_Response_to_Data_Adequacy_Review.pdf

Two information-sharing meetings were subsequently held between Energy Commission siting staff and the applicant at the Energy Commission's office in Sacramento to discuss the two (2) of nine (9) technical disciplines that remained data inadequate following the submission of AFC Supplement A, namely Biological Resources and Cultural Resources.

The first meeting was held on **September 14, 2011** to discuss and clarify staff's revised data adequacy sheets for Cultural Resources (revision #1, dated 9/13/11, attached). The second meeting was held on **September 19, 2011** to discuss and clarify the data adequacy sheets for Biological Resources (revision #1, dated 9/16/11, also attached).

Attached: Data Adequacy Sheets, Revision #1 (Biological Resources, Cultural Resources)

cc: Rick York, Senior Biological Resources Shaelyn Stratton, Senior Cultural Resources Dick Ratliff, Staff Counsel Eric Knight, Environmental Office Manager Chris Davis, Siting Office Manager Jennifer Jennings, Public Adviser	Prepared by: Mike Monasmith
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Adequacy Issue:

Adequate _____ Inadequate X

DATA ADEQUACY WORKSHEET

Revision No. 1 Date 9/16/2011

Technical Area: Biological Resources

Project: Hidden Hills Solar

Technical Staff: A. Golden & J. Nishida

Project Manager: Mike Monasmith

Docket: Docket Number 11-AFC-02

Technical Senior: Rick York

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	<p>Existing site conditions: Section 5.2.1.1</p> <p>Direct, indirect, and cumulative impacts: Sections 5.2.7 and 5.2.8</p> <p>Mitigation measures: Section 5.2.9</p> <p>Monitoring plans: Sections 5.2.9.1, 5.2.9.3, and Appendix 5.2I</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	
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:	<p>Regional overview: Sections 5.2.1.1 and 5.2.6; Appendices 5.2D, 5.2F, and 5.2H</p> <p>Regional vicinity maps: Figures 5.2-1 and 5.2-2; Appendices 5.2D Figure 1 and 5.2F Figures 2 and 3, <u>AFC Supplement Figures 5.2-1 and 5.2-2</u></p>	<p>No</p>	<p>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. <u>Please provide the following information for a regional overview map: NEMO regional management layers, Clark County HCP layer, the Nopah Wilderness Area, South Nopah Wilderness Area, and Pahrump Wilderness Area.</u></p>

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Revision No. 1 Date 9/16/2011

Technical Area: Biological Resources

Project: Hidden Hills Solar

Technical Staff: A. Golden & J. Nishida

Project Manager: Mike Monasmith

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SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (13) (A) (i)	species listed under state or federal Endangered Species Acts;	Federal and State Endangered Species: Tables 5.2-2 and 5.2-7 Sections 5.2.2.1 and 5.2.6.7; Appendices 5.2B and 5.2G	Yes	
Appendix B (g) (13) (A) (ii)	resources defined in sections 1702(q) and (v) of Title 20 of the California Code of Regulations;	Areas of critical concern and species of special concern: Tables 5.2-2 and 5.2-7 Sections 5.2.1.1, 5.2.2.2, 5.2.3.1.7, and 5.2.7.9	Yes	
Appendix B (g) (13) (A) (iii)	species identified as state Fully Protected;	State Fully Protected species: Table 5.2.7 Section 5.2.6.7	Yes	
Appendix B (g) (13) (A) (iv)	species covered by Migratory Bird Treaty Act;	Migratory Bird Act species: Tables 5.2-7, 5.2-8, and 5.2-12	Yes	
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	Species and habitats identified in the California Natural Diversity Database: Sections 5.2.2.3, 5.2.6.3, Figure 5.2-3, Appendix 5.2E	<u>No</u> <u>Yes</u>	Please contact California Department of Fish and Game (CDFG) 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.

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Appendix B (g) (13) (A) (vi)	fish and wildlife species that have commercial and/or recreational value.	Fish and wildlife of commercial or recreational value: Not applicable	N/A	
Appendix B (g) (13) (B)	Include a list of the species actually observed and those with a potential to occur within 1 mile of the project site and 1,000 feet from the outer edge of linear facility corridors. Maps or aerial photographs shall include the following:	List of species observed: Tables 5.2-2 through 5.2-5, 5.2-7 through 5.2-12	Yes	
Appendix B (g) (13) (B) (i)	Detailed maps at a scale of 1:6,000 or color aerial photographs taken at a recommended scale of 1 inch equals 500 feet (1:6,000) with a 30 percent overlap that show the proposed project site and related facilities, biological resources including, but not limited to, those found during project-related field surveys and in records from the California Natural Diversity Database, and the associated areas where biological surveys were conducted. Label the biological resources and survey areas as well as the project facilities;	Maps of proposed project site: Figures 5.2-5a and 2.1-2 Maps of biological resources: Figures 5.2-1, 5.2-2, 5.2-5a through 5.2-5g, 5.2-6a through 5.2-6i, 5.2-7 through 5.2-12 Map of survey area: Figure 5.2-3	Yes	
Appendix B (g) (13) (B) (ii)	A depiction of the extent of the thermal plume at the surface of the water if cooling water is proposed to be discharged to a water source. Provide the location for the intake and discharge structures on an aerial photograph(s) or detailed maps. Water sources include, but are not limited to, waterways, lakes, impoundments, oceans, bays, rivers, and estuaries; and	Depiction of the thermal plume: Not applicable Location of intake and discharge structures: Not applicable	N/A N/A	

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Revision No. 1 Date 9/16/2011

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Technical Staff: A. Golden & J. Nishida

Project Manager: Mike Monasmith

Docket: Docket Number 11-AFC-02

Technical Senior: Rick York

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Appendix B (g) (13) (C) (i)	A list of all the species actually observed;	List of species observed: Tables 5.2-3, 5.2-4, 5.2-8, 5.2-10 through 5.2-13	Yes	
Appendix B (g) (13) (C) (ii)	A list of sensitive species and habitats with a potential to occur (as defined in (A) above); and	Sensitive species and habitats with potential to occur: Tables 5.2-2, 5.2-7, and 5.2-11	Yes	
Appendix B (g) (13) (C) (iii)	If cooling water is taken directly from or discharged to a surface water feature source, include a description of the intake structure, screens, water volume, intake velocity hydraulic zone field of influence, and the thermal plume dispersion area as depicted in response to B(ii) above. Describe the thermal plume size and dispersion under high and low tides, and in response to local currents and seasonal changes. Provide a discussion of the aquatic habitats, biological resources, and critical life stages found in these affected waters. For repower projects that anticipate no change in cooling water flow, this information shall be provided in the form of the most recent federal Clean Water Act 316(a) and (b) studies of entrainment and impingement impacts that has been completed within the last five (5) years. For new projects or repower projects proposing to use once-through cooling and anticipating an increase in cooling water flow, provide a complete impingement and entrainment analysis per guidance in (D)(ii), below.	Intake structure characteristics: Not applicable Thermal plume description: Not applicable Aquatic habitat and biological resources affected: Not applicable Impingement and entrainment analysis: Not applicable	N/A N/A N/A N/A	

Technical Area: Biological Resources Project: Hidden Hills Solar Technical Staff: A. Golden & J. Nishida
 Project Manager: Mike Monasmith Docket: Docket Number 11-AFC-02 Technical Senior: Rick York

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
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:	<p>Description of field studies: Sections 5.2.5 and 5.2.6; Appendices 5.2D, 5.2F, and 5.2H</p> <p>Copies of CNDDDB records and field survey forms: <u>Attachment BR-2</u></p> <p>Qualifications of biologists: Appendices 5.2A and 5.2C <u>Attachment BR-3</u></p>	<p>Yes</p> <p>No</p> <p><u>No</u> <u>Yes</u></p>	<p>Have UTM coordinates for sensitive species encountered in Appendix 5.2F. Please provide verification that field forms and maps have been provided to the CNDDDB. Please provide copies of the CNDDDB field survey forms for sensitive species occurrences found during surveys. Also include CNDDDB field forms for the Nye milkvetch (<i>Astragalus nyensis</i>) since this species is new to California.</p> <p>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.</p>

Technical Area: Biological Resources Project: Hidden Hills Solar Technical Staff: A. Golden & J. Nishida
 Project Manager: Mike Monasmith Docket: Docket Number 11-AFC-02 Technical Senior: Rick York

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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;	Current biological surveys: Sections 5.2.5.5, 5.2.5.6, 5.2.6; Appendices 5.2D, 5.2F, and 5.2H <u>Attachment BR-4</u>	No	<u>Regarding golden eagle, Attachment BR-4 provides an explanation from CDFG BHS biologist (Jeff Villepique) on conflicts with eagle helicopter surveys and bighorn sheep lambing season; however, contact with USFWS Migratory Bird Program staff, the primary federal agency regulating eagle surveys and permitting, was not provided in this attachment of the Supplement. Since submitting the Supplement, the applicant did contact and provide a record of conversation with USFWS Regional Eagle Permit Biologist (Heather Beeler, dated Sept 7, 2011). 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. Regarding burrowing owl, the applicant performed owl surveys concurrently with desert tortoise surveys, but did not provide any data that Phase II or Phase III surveys were performed (CBOC 1993). Please provide field survey data forms for burrowing owl surveys have been conducted to date; include specific survey dates and times surveys were conducted on these forms. Please provide an assessment of potential impacts to roosting and foraging habitat for bats. Subsequent golden eagle surveys will be requested during Data Discovery phase in order to conform to the federal survey protocol (Pagel et al. 2010). Burrowing owl surveys may also be requested during Data Discovery. Please also contact USFWS BHS biologists for CA and NV for their input on golden eagle survey protocol guidance in relation to timing with BHS lambing season and provide record of conversation.</u>

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Appendix B (g) (13) (D) (ii)	If cooling water is proposed to be taken directly from or discharged to a surface water feature source, seasonal aquatic resource studies and surveys shall be conducted. Aquatic resource survey data shall include, but is not limited to, fish trawls, ichthyoplankton and benthic sampling, and related temperature and water quality samples. For new projects or repower projects anticipating a change in cooling water flows, sampling protocols shall be provided to the Energy Commission staff for review and concurrence prior to the start of sampling. For repower projects not anticipating a change in cooling water flows, this information shall be provided in the form of the most recent federal Clean Water Act 316(b) impingement and entrainment impact study completed within five (5) years of the AFC filing date; and	<p>Aquatic resource studies and surveys: Not applicable</p> <p>Aquatic resource survey data or impingement and entrainment impact study: Not applicable</p>	<p>N/A</p> <p>N/A</p>	
Appendix B (g) (13) (D) (iii)	If the project or any related facilities could impact a jurisdictional or non-jurisdictional wetland, provide completed Army Corps of Engineers wetland delineation forms and/or determination of wetland status pursuant to Coastal Act requirements, name(s) and qualifications of biologist(s) completing the delineation, the results of the delineation and a table showing wetland acreage amounts to be impacted.	<p>Impacts to jurisdictional or non-jurisdictional wetlands: Not applicable</p>	N/A	
Appendix B (g) (13) (E)	Impacts discussion of the following:			

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Project Manager: Mike Monasmith

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Technical Senior: Rick York

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<p>Appendix B (g) (13) (E) (i)</p>	<p>all impacts (direct, indirect, and cumulative) to biological resources from project site preparation, construction activities, plant operation, maintenance, and closure.</p> <p>Discussion shall also address sensitive species habitat impacts from cooling tower drift and air emissions;</p>	<p>Project site impacts: Section 5.2.7 Sections 5.2.2, 5.2.5, and 5.2.6 Section 5.2.8</p> <p><u>In the Supplement for Hidden Hills 5.2 No. 6, staff was directed to AFC Sections 5.2.2, 5.2.5, 5.2.6, 5.2.7, and 5.2.8. There was no discussion regarding impacts in AFC Sections 5.2.2, 5.2.5, and 5.2.6. Sections 5.2.2 and 5.2.6 discussed only the results of the field efforts. Section 5.2.5 only discussed data collection and survey methods. There is still no discussion regarding impacts to special status plants, desert kit fox, and state waters.</u></p> <p>Air emission impacts on sensitive species habitat: <u>Supplement 5.2 6b</u></p>	<p>No</p> <p>No <u>Yes</u></p>	<p>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, and special status bats, state waters, and the effects of the power tower and other structures to avian species.</p> <p><u>Please include a discussion on the project's direct, indirect, and cumulative impacts from project site preparation, construction activities, plant operation, maintenance, and closure to special status plant species, desert kit fox and state waters since they were not addressed in the AFC or supplement. Include a discussion of impacts of the storm water management system on state waters.</u></p> <p>Please provide a discussion of potential impacts of dust and nitrogen deposition on sensitive species habitat.</p>
<p>California Energy Commission – Siting, Transmission, and Environmental Protection Division</p>		<p>10</p>	<p>Record of Conversation</p>	

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Project Manager: Mike Monasmith

Docket: Docket Number 11-AFC-02

Technical Senior: Rick York

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Appendix B (g) (13) (E) (ii)	facilities that propose to take water directly from, and/or discharge water to surface water features, daytime and nighttime impacts from the intake and discharge of water during operation, water velocity at the intake screen, the intake field of influence, impingement, entrainment, and thermal discharge. Provide a discussion of the extent of the thermal plume, effluent chemicals, oxygen saturation, intake pump operations, and the volume and rate of cooling water flow at the intake and discharge location; and	Intake impacts: Not applicable Thermal plume impacts: Not applicable	N/A N/A	
Appendix B (g) (13) (E) (iii)	Methods to control biofouling and chemical concentrations, and temperatures that are currently being discharged or will be discharged to receiving waters.	Biofouling and chemical concentration controls: Not applicable Discharge temperatures: Not applicable	N/A N/A	
Appendix B (g) (13) (F)	A discussion of all feasible mitigation measures including, but not limited to the following:			
Appendix B (g) (13) (F) (i)	All measures proposed to avoid and/or reduce adverse impacts to biological resources;	Avoidance and minimization: Section 5.2.9	Yes	

Technical Area: Biological Resources Project: Hidden Hills Solar Technical Staff: A. Golden & J. Nishida
 Project Manager: Mike Monasmith Docket: Docket Number 11-AFC-02 Technical Senior: Rick York

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (13) (F) (iv)	All measures proposed to avoid or minimize adverse impacts of cooling water intake. This shall include a Best Technology Available (BTA) discussion. If BTA is not being proposed, the rationale for not selecting BTA must be provided; and	Measures to minimize impacts of cooling water intake: Not applicable	N/A	
Appendix B (g) (13) (F) (v)	Educational programs to enhance employee awareness during construction and operation to protect biological resources.	Employee biological resource awareness training: Section 5.2.9.1	Yes	
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.	Monitoring compliance effectiveness: <u>The AFC and Supplement have still not addressed compliance and monitoring programs.</u>	No	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. <u>For special-status plants, please provide a description of potential mitigation measures that may be considered to protect these plant species and monitoring plans to help determine if the mitigation is successful.</u>

Technical Area: Biological Resources Project: Hidden Hills Solar Technical Staff: A. Golden & J. Nishida
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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.	Contact with state and federal agencies regarding permits: Table 5.2-16	No	Please contact CDFG field office in Bishop regarding <u>the need for a Lake and Streambed Alteration Agreement and 2081 permit (but for the exclusive authority of the Energy Commission)</u> and the Ventura Field Office for the USFWS regarding <u>the need for Section 7 consultation for the project which occurs in California. Provide record of conversation with the appropriate CDFG LSAA staff regarding regional mapping methods and criteria for state waters.</u> 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.
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with 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; and	TABLE IDENTIFYING APPLICABLE BIOLOGICAL RESOURCES LAWS, ORDINANCES, REGULATIONS, AND STANDARDS: Table 5.2-1	YES	
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.	TABLES IDENTIFYING AGENCIES WITH JURISDICTION: Table 5.2-14	YES	

Adequacy Issue: Adequate _____ Inadequate X DATA ADEQUACY WORKSHEET Revision No. 1 Date 9/16/2011

Technical Area: Biological Resources Project: Hidden Hills Solar Technical Staff: A. Golden & J. Nishida
 Project Manager: Mike Monasmith Docket: Docket Number 11-AFC-02 Technical Senior: Rick York

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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.	AGENCY CONTACT INFORMATION: Table 5.2-14	NO	PLEASE UPDATE TABLE 5.2-14 TO INCLUDE CDFG <u>BISHOP FIELD OFFICE CONTACT FOR THE PROJECT, (WENDY CAMPBELL, 760-872-1171)</u> AND PROVIDE USFWS VENTURA FIELD OFFICE <u>BIOLOGIST CONTACTS FOR THE PROJECT. PLEASE INCLUDE USFWS PERSONNEL WHO WORK ON GOLDEN EAGLE, BIG HORN SHEEP, AND MIGRATORY BIRD ISSUES.</u>
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.	Permit schedule: Table 5.2-16	Yes	

Adequacy Issue: Adequate _____ Inadequate X DATA ADEQUACY WORKSHEET Revision No. 1 Date 9/13/2011
 Technical Area: Cultural Resources Project: Hidden Hills (HHSEGS) Technical Staff: Kathleen Forrest
 Project Manager: Mike Monasmith Docket: 11-AFC-2 Technical Senior: Shaelyn Strattan

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Section 5.3 Impacts 5.3.5, pp. 5.3-31–32 Mitigation 5.3.6, pp. 5.3-32–34	Yes	
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.	Section 5.3.3, pp. 5.3-9–21 <u>Supplement page 18</u>	No	<p>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.</p> <p><u>Contrary to the applicant's assertion in the September 2011 supplement to their AFC that our regulations do not require the information that staff sought on the prehistoric archaeology of the more immediate vicinity of the project area, the regulations specifically state that the summary of prehistory must have an "emphasis on the area within no more than a 5-mile radius</u></p>

			<p><u>of the project location.” The summary provided, as previously stated, is a broad introduction to the prehistory of the Mojave as a whole. Absent is any discussion of how the broad prehistoric overview applies to the immediate (5-mile radius) project vicinity or site, including what type of archaeology might be found in the immediate vicinity.</u></p> <p><u>As previously requested, please develop a discussion of the prehistoric archaeology of the immediate project area, within a 5-mile radius of the project location. This discussion should incorporate the information in the cultural resources technical reports and site forms that were gathered for the appendices of the AFC.</u></p> <p><u>Ethnology:</u> The profiling 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.</p>
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				As is the case for prehistory (see above), our siting regulations also require a summary of the ethnology of the project area region “within no more than a 5-mile radius of the project location.” The summary of the ethnology in the AFC does not convey this information. Staff requests that the applicant redraft the ethnology summary to address (a) the use of the area by each relevant ethnic 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, as this information relates to that 5-mile area surrounding the project location. Sources for this information may include, but are certainly not limited to, published and peer-reviewed academic literature, written or oral Native American narratives, and discussions with Native Americans, such as the August 2, 2011 meeting with the Las Vegas and Pahrump bands of the Paiute.
Appendix B (g) (2) (B)	<p>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 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.</p> <p>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</p>	<p>Literature search 5.3.3.6.1 pp. 5.3-22–24</p> <p>Cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum</p> <p>DPR forms Appendix 5.3B, Appendix B</p>	<p>Yes</p> <p><u>No-Yes Supplement</u> pp. 19-20</p> <p>Yes</p>	<p>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.</p>

	<p>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.</p>	<p>USGS 7.5' quad map of literature search results Appendix 5.3B, Appendix C</p> <p>Copies of technical reports Appendix 5.3C</p>	<p>Yes</p> <p>Yes</p>	
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<p>Appendix B (g) (2) (C)</p>	<p>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.</p> <p>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</p>	<p>New surveys 5.3.3.6.2</p> <p>New pedestrian archaeological surveys of project site 5.3.3.6.2, pp. 5.3-24–30</p> <p>Survey of project linear facility routes</p> <p>Historic architecture surveys</p>	<p>Yes</p> <p>Yes</p> <p>N/A</p> <p>N/A</p>	
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	<p>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.</p> <p>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).</p>	<p><u>Appendix 5.3B</u> <u>Supplement pp. 21-22</u></p>	<p>No</p>	<p>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.</p> <p><u>In response to our requests that the applicant provide a research design in the technical report for their new pedestrian archaeological survey and that they correlate the research design with their conclusions about the results of the survey, the applicant inadvertently misrepresents the roles of research designs in archaeological surveys in general and in the Energy Commission's siting process in particular. The applicant has also inadvertently misrepresented how the cited guidance envisions the use of research designs in the conduct of archaeological surveys.</u></p> <p><u>The use of explicit research designs as an integral part of archaeological research, whether for surveys, test excavations, or full-scale excavations, has been a standard of the discipline since their use was begun in the late 1940s (Taylor 1948) and was firmly entrenched by the early 1960s (Binford 1962). Every undergraduate student of archaeology at every major research university in North America is taught this standard and is further admonished that to do an archaeological investigation without a research design is akin to looting. Staff is only able to assume that the applicant's statement</u></p>
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			<p><u>that “a research design is not a typical element of an archaeological survey report” is meant to refer to the subset of archaeological survey reports that are produced annually in the context of regulatory compliance. Among the reports of this subset and particularly among the subset of archaeological survey reports conducted to comply with CEQA, research designs are typically not included in archaeological survey reports because there is not regulatory enforcement of established disciplinary standards. Staff finds a fundamental legal and ethical flaw in the applicant’s default argument that substandard archaeological research is sufficient. Staff and the regulations endeavor to hold our applicants and their consultants to the established standards of the overarching discipline.</u></p> <p><u>In addition, the applicant appears to have inadvertently misread the cited guidance, Archaeological Resource Management Report (ARMR), with regard to the place of research designs in archaeological investigations. Beyond the general statement that the applicant cites in the preface to the guidance, ARMR goes on to state that:</u></p> <p><u><i>Research designs are explicit statements of the theoretical and methodological approaches to be followed in an archaeological study. Research designs should be included in almost every type of archaeological report, and should vary in nature and level of detail with the undertaking and investigation type (p. 9).</i></u></p> <p><u>This statement reflects the axiom above that underpins standard archaeological study, and makes it clear that the inclusion of a research design in the report for a large archaeological survey is a reasonable interpretation of ARMR with regard to the present project. The purpose of the research design is to link theory, known information, research goals and methods, as well as to develop predictive models for</u></p>
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			<p><u>archaeological surveys and to state the goals of the research. The applicant's consultant performed an archaeological field survey, the methods and results of which are presented in both the Methods and Report of Findings sections of Appendix 5.3B. Presumably, the applicant's consultant prepared some type of research design appropriate to the undertaking and investigation type, that included research questions for the region and relevant to the study.</u></p> <p><u>Not only is the information above essential to guide the pre-application archaeological field survey and the interpretation of any resources within the survey area, it provides the foundation on which to begin the evaluation of resources, whether for CEQA or NRHP purposes. Without a research design, there is no context to accurately interpret any finds or determine the potential eligibility of resources. This discussion is directly linked to the identification and evaluation of any potential historical resources and the development and discussion of any impacts or mitigation for those resources determined to be historical resources, and is not present in Appendix 5.3B.</u></p> <p><u>The applicant and their consultant were made aware that staff expected to see a research design for the archaeological survey during the March 9 pre-filing meeting, when staff requested to review that research design prior to the consultant undertaking the survey. While the requested pre-survey review would have been a courtesy and was not required under the current regulations, staff's expectation for its inclusion in the technical report should not be unexpected and is required by the regulations.</u></p> <p><u>The applicant's implication that the only appropriate place for an archaeological research design is in the cultural resources monitoring and mitigation plan (CRMMP) that is often a condition of certification is patently unfounded.</u></p>
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				<p><u>Staff assumes, however, that the research design used to guide the pre-application archaeological survey and the resulting data and interpretations would then be used to inform the data recovery research designs that are typically included in a CRMMP.</u></p> <p><u>As previously requested, please provide the research design used to guide the pre-application archaeological survey, 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. Also, please discuss the results of the investigations as they relate to specific research design items and general objectives.</u></p> <p><u>Binford, Lewis 1962 "Archaeology as Anthropology," <i>American Antiquity</i> 28(2):217–225.</u></p> <p><u>Taylor, Walter W. 1948 <i>A Study of Archaeology</i>, Memoir Series of the American Anthropological Association, No. 69, Menasha.</u></p>
Appendix B (g) (2) (C) cont.	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, <u>the technical report shall include the following:</u>	Information included in the technical report shall also be provided in the Application for Certification, except that confidential information Section 5.3	No	See items above (Appendix B (g) (2) (A) ; Appendix B (g) (2) (C) <u>Information included in the technical report, except confidential information, shall also be provided in the Application for Certification. As the information in the AFC is identical to that presented in the Technical Report and is inadequate, as noted above, the Technical Report is also inadequate in these sections. Please submit a revised Technical Report that corrects the noted deficiencies.</u>
Appendix B (g) (2) (C) (i)	The summary from Appendix B (g)(2)(A) and the literature search results from Appendix B (g)(2)(B);	Appendix 5.3B, Report of Findings and Archival Research	Yes	
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;	Appendix 5.3B, Report of Findings and Field Survey	<u>No-Yes</u>	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

			<p>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.</p> <p>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).</p> <p>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</p>
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				lithic extraction sites, please determine which of the data sets from the subject sites may be germane and re-evaluate those sites in light of the new information.
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;	Appendix 5.3B, Appendix B <u>Appendix 5.3B, Appendix B and Supplement p. 24</u>	No <u>Yes</u>	Include evaluations for each resource, including whether a resource is eligible for the California Register of Historical Resources (CRHR) or eligible for listing or listed in a local register, as stated in Section 15064.5 of the CEQA Guidelines. 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.
Appendix B (g) (2) © (iv)	A map at a scale of 1:24,000 U.S. Geological Survey quadrangle depicting the locations of all previously known and newly identified cultural resources compiled through the research required by Appendix B (g)(2)(B) and Appendix B (g)(2)(C) (ii); and	Appendix 5.3B, Appendix A and Appendix 5.3E	Yes	
Appendix B (g) (2) © (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.	Appendix 5.3D Supplement <u>Attachment CR-1</u>	No <u>Yes</u>	Include the resumes for Gabriel DuPre, Dan Ewers, Eric Peters, Dmitra Chase, Ryan Rolston, Kurt Lambert, Erica Maier, Eric Hall, Humphrey Calicher, Jesse Shelmine
Appendix B (g) (2) (D)	Provide a copy of your request to the Native American Heritage Commission (NAHC) for information on Native American sacred sites and lists of Native Americans interested in the project vicinity, and copies of any correspondence received from the NAHC. Notify the Native Americans on the NAHC list about the project, including a project description and map. Provide a copy of all correspondence sent to Native American individuals and groups listed by the NAHC and copies of all responses. Provide a written summary of any oral responses.	Appendix 5.3A	Yes	
Appendix B	Include in the discussion of proposed mitigation			

<p>(g) (2) (E) Appendix B (g) (2) (E) (i)</p>	<p>measures required by subdivision (g)(1): A discussion of measures proposed to mitigate project impacts to known cultural resources;</p>	<p><u>Appendix 5.3B, Report of Finding and Management Considerations and Supplement, p. 24</u></p>	<p>N/A No</p>	<p><u>The regulation requires a discussion of measures proposed to mitigate project impacts to known cultural resources. To adequately identify impacts and appropriate mitigation, cultural resources and the significance of those resources must first be identified. Resources that are not historical resources for the purposes of CEQA (Guidelines 15064.5) are not subject to mitigation. If the resources have not been evaluated to determine whether they are a resource for the purposes of CEQA, which would require that the resources be evaluated for CRHR eligibility (including a discussion of the applicable criteria and integrity) or other CEQA significance criteria, impacts and mitigation cannot adequately be identified or discussed. Additionally, the DPR forms that were provided in Appendix 5.3B only provide recommendations for the National Register, which has a higher threshold of significance than the California Register or local registers. If the consultant is prepared to make a recommendation regarding eligibility, as they have in both the DPR forms and in the Report of Findings in Appendix 5.3B, it is reasonable to assume that this exercise has been completed and is not a burden to include in the document.</u></p> <p><u>As previously requested, please include complete evaluations for each resource, including whether a resource is eligible for the California Register of Historical Resources (CRHR) or eligible for listing or listed in a local register, or would otherwise be considered a historical resource for the purposes of CEQA, as stated in Section 15064.5 of the CEQA Guidelines. Include a discussion of how it does/does not meet each criteria and a discussion of the integrity of the resource. Also include the photographs noted in the included photograph logs.</u></p>
<p>Appendix B</p>	<p>A set of contingency measures proposed to</p>	<p>Appendix 5.3B</p>	<p>Yes</p>	

(g) (2) (E) (ii)	mitigate potential impacts to previously unknown cultural resources and any unanticipated impacts to known cultural resources; and	Management Considerations Section 5.3.6 pp. 5.3-32–34		
Appendix B (g) (2) (E) (iii)	Educational programs to enhance employee awareness during construction and operation to protect cultural resources.	Section 5.3.6.2, p. 5.3-32 <u>Supplement pp. 24-25</u>	No <u>Yes</u>	Generally discuss educational programs to enhance awareness during operation to protect cultural resources, should any resources be discovered during construction.
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with 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; and	Section 5.3.2, pp. 5.3-3–9	Yes	
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.	Not included <u>Supplement pp. 25-26</u>	No <u>Yes</u>	Include required table
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.	Section 5.3.7, table 5.3-8, p. 5.3-34 <u>Supplement p. 26</u>	No <u>Yes</u>	Include contacts at the local level
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.	Section 5.3.8, pp. 5.3-34–35	Yes	