CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Sacramento, California 95814

Main website: www.energy.ca.gov

December 9, 2009

DOCKET
09-AFC-8
DATE 12/09/09
RECD. 12/10/09

Scott Busa, Director
NextEra Energy Resources, LLC
700 Universe Blvd.
Juno Beach, FL 33408

RE: GENESIS SOLAR ENERGY PROJECT (09-AFC-8), DATA REQUESTS SET 1B (#228-292)

Mr. Busa:

Pursuant to Title 20, California Code of Regulations, Section 1716, the California Energy Commission staff seeks the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

This set of data requests (#228-292) is being made in the areas of Cultural Resources (#228-282) and Visual Resources (#283-292). Written responses to the enclosed data requests are due to the Energy Commission staff on or before January 11, 2010, or at such later date as may be mutually agreeable.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, you must send a written notice to both the Committee and me within 20 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, Sec.1716 (f)). If you have any questions, please call me at (916) 654-4894 or email me at mike.monasmith@energy.state.ca.us.

Sincerely,

Mike Monasmith
Project Manager

cc: Docket (09-AFC-8)
Proof of Service List

PROOF OF SERVICE (REVISED 11/30/09) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 12/10/09
MS

Technical Area: Cultural Resources
Authors: Beverly E. Bastian (Energy Commission) and Christopher Dalu (Bureau of Land Management)

The Energy Commission cultural resources data requests are organized to show which requests would be pertinent to which cultural resources review approach (approaches 1, 2, or 3) the applicant chooses, as outlined in the November 25, 2009 letter to the applicant from Mike Monasmith, Energy Commission Siting Project Manager.

Approach 1

If the applicant chooses cultural resources review approach 1, all of the data requests below would need to be answered except for # 272. (For approaches 2 and 3, go to the end of the cultural resources data requests.)

Data Requests from Beverly E. Bastian, Cultural Resources Specialist, California Energy Commission

BACKGROUND

To assess the proposed project's potential impact on buried archaeological resources and on potentially historic built-environment resources, staff needs information on the dimensions of ground disturbance associated with the installation of various project components and on the potential effect on the integrity of setting of various project structures.

DATA REQUESTS

228. In a table, please list all linear facilities that entail trenching or the excavation/drilling of holes for footings, and provide, for both the on- and off-site segments of each, the total length of each facility, and the trench dimensions (width and depth of excavation) or hole dimensions (diameter and depth of excavation) required to install each.

229. In a table, please list all buildings and equipment whose foundations require excavation (including the solar collectors and for the above-ground piping and electrical lines) and provide the dimensions and depths of holes that would be dug to construct these foundations.

230. In a table, please list all buildings and structures and provide the height of each.

231. Please provide a map or series of maps at a scale of 1"=300 feet showing the project components listed in the requested tables.

BACKGROUND

The proposed project would include a Land Treatment Unit (LTU) for bioremediation which must be lined with soil and surrounded with a high berm of soil (AFC, p. 3-17). The mode of construction of the LTU is not provided. Additionally, in discussing the expected earthwork for the proposed project, the required properties for imported fill

were noted (AFC, p. 3-53). It is not clear in the earthwork discussion whether or not the project expects to make use of imported fill.

To assess the project's potential impact on archaeological resources, staff needs additional information on the extent of ground disturbance associated with the LTU, both on- and off-site and additional information on the extent of ground disturbance associated with use of a non-commercial borrow area.

DATA REQUESTS

232. Please provide the dimensions and depth into the ground of the hole excavated for the LTU.

233. Please provide a description of the process of constructing the LTU.

234. Please explain from where the project would obtain general fill soil, if needed, and specifically the soil used to line the LTU and to construct the LTU berm. If any non-licensed, non-commercial soil borrow sites would be used:

    a. Please have a qualified archaeologist survey these sites and record on Department of Parks and Recreation (DPR) 523 forms any cultural resources that are identified; and

    b. Please submit to staff a report on the methods and results of these surveys, with recommendations for the treatment of any cultural resources identified in the surveys.

BACKGROUND

The proposed project would use a septic tank and leach field for disposal of wastewater (AFC, p. 3-1, p. 3-16), but no details on the location or dimensions were provided. To assess the project's potential impact on buried archaeological resources, staff needs additional information on the extent of ground disturbance associated with the septic tank and leach field.

DATA REQUESTS

235. Please provide a scaled map showing the septic tank and leach field in relation to other project components.

236. Please provide the surface dimensions and depth into the ground of the holes excavated for the septic tank and for the leach field.

BACKGROUND

The proposed project would manage on-site storm water with swales, ditches, and a detention pond for each unit (AFC, pp. 3-23–3-24). A figure, provided at a very reduced scale, shows swale locations, sections, and dimensions, and detention pond locations (AFC, vol. II, app. A, app. A, app. E, drawing GENI-1-DW-112-726-004), but no dimensions are provided. To assess the project's potential impact on buried archaeological resources, staff needs additional information on the extent of ground disturbance associated with the proposed storm water management system.

DATA REQUESTS

237. Please provide the surface dimensions and depth into the ground of the holes excavated for the swales, ditches, and two detention ponds.

238. Please provide a map or a series of maps at a scale of 1”=500 feet showing the storm water management system components in relation to other project components.

BACKGROUND

For some unspecified distance, the proposed project’s interconnection transmission line (gen-tie) would “share a length of double-circuit transmission poles with the BEPTL” (Blythe Energy Project Transmission Line, also known as the Blythe-Julian Hinds 230-kV Transmission Line) (AFC, p. 3-25). The mode of sharing the Blythe-Julian Hinds transmission line’s poles is not described, so it is not clear whether just reconductoring is planned or whether pole replacement would be needed. To assess the project’s potential impact on buried archaeological resources, staff needs additional information on the extent of ground disturbance associated with the project’s proposed use of the Blythe-Julian Hinds transmission line poles.

DATA REQUEST

239. Please provide a description of the proposed project’s expected use of the Blythe-Julian Hinds transmission line poles, including any reconductoring or pole replacement.

BACKGROUND

The proposed project would make use of some 25 pulling sites about one mile apart to conductor its new gen-tie (AFC, p. 3-30). No information was provided on the size of these pulling sites. To assess the project’s potential impact on archaeological resources, staff needs additional information on the extent of ground disturbance associated with the pulling sites.

DATA REQUESTS

240. Please provide a scaled map showing the locations of the pulling sites in relation to the gen-tie route.

241. Please provide the dimensions of the surface area around the pulling sites that would be disturbed by the gen-tie conductoring.

BACKGROUND

For the installation of each of the gen-tie poles, a “work area” and a “construction pad” would be cleared of vegetation and leveled (AFC, p. 3-29). No information was provided on the size of the needed work areas and construction pads. To assess the project’s potential impact on archaeological resources, staff needs additional information on the extent of ground disturbance associated with the gen-tie poles’ work areas and construction pads.

DATA REQUEST

242. Please provide the typical dimensions and the greatest dimensions of a gen-tie pole work area and construction pad.

BACKGROUND

The proposed project may use some unspecified mode of "trenchless construction," featuring boring pits, to install its natural gas pipeline under other existing pipelines (AFC, p. 3-31). No information on the locations of these boring pits or on the extent of ground disturbance associated with them was provided. To assess the project's potential impact on buried archaeological resources, staff needs additional information on locations and on the extent of ground disturbance associated with the boring pits that may be used for trenchless construction.

DATA REQUESTS

243. Please provide a scaled map showing the locations of all possible boring pits in relation to other project components.

244. Please provide the dimensions and depths into the ground of the holes that would need to be excavated for all trenchless construction boring pits.

BACKGROUND

AFC Figure 3.2-2 shows the gen-tie transmission line entering the proposed plant site, running south to north near the western side of Unit 2. From Figure 3.4-1, it appears that the Unit 2 power block would be located east of the gen-tie. Yet Figure 3.4-3 indicates the gen-tie would leave the Unit 2 switchyard and run east rather than west to connect "to [the] Colorado River Substation." Figure 3.4-3 also shows an on-site transmission line entering the Unit 2 switchyard from Unit 1, to the west, but no provided figure shows the route of this line between the two power blocks. These representations leave unclear the on-site route of the gen-tie transmission line and of the transmission line connecting Unit 1's power output to Unit 2's switchyard. Staff needs to have route and pole locations and dimension data for the two on-site transmission lines to assess potential impacts to buried archaeological resources, unknown at this time but possibly present.

DATA REQUESTS

245. Please provide a scaled map showing the on-site route of the gen-tie transmission line and the on-site route of the Unit-1-to-Unit-2 transmission line, with pole locations indicated, in relation to the other project components.

246. Please provide the diameter and depth of the holes that would be excavated to install the two transmission lines.

BACKGROUND

AFC Figure 3.2-2, shows the natural gas pipeline entering the proposed plant site running south to north near the western side of Unit 2. Since both Units 1 and 2 would

use natural gas, pipelines to the two power blocks would be necessary, but no provided figure shows these pipelines, and their dimensions are not discussed in Section 3.0. Staff needs to have route locations for the two pipelines and dimension data to assess potential impacts to buried archaeological resources, unknown at this time but possibly present.

DATA REQUESTS

247. Please provide a scaled map showing the routes of the on-site natural gas pipelines in relation to other project components.

248. Please provide the length, width, and depth of the trenches for the on-site natural gas pipelines.

B**ACKGROUND**

AFC Section 3.0, the Project Description section, does not include a map showing the corridor for the natural gas pipeline route, the gen-tie transmission line route, and the main site access road route at a scale sufficiently large for staff analysis of potential impacts. Cultural Resources Technical Report Figure 3 appears to show the cultural resources survey coverage area of that corridor (although this is not stated in the Technical Report), but using the Figure 3 map scale, it appears that the surveyed corridor for the natural gas pipeline route, the gen-tie transmission line route, and the main site access road was approximately 0.2 mile wide. The Cultural Resources Technical Report states only that the survey coverage met BLM requirements (p. 40), and the AFC discussion states that 150 feet to either side of the centerline of the gen-tie transmission line route was surveyed (p. 5.16-22). To assess potential impacts to buried archaeological resources (unknown at this time but possibly present), staff needs to know the exact areal extent of the proposed project linear facilities and the exact areal extent of archaeological survey coverage of the routes of the linear facilities.

DATA REQUESTS

249. Please provide a map or map series at a scale of 1:12,000 showing the routes of the main site access road, the natural gas pipeline, and the gen-tie transmission line, including, for the latter, the part which would share poles with the Blythe Energy Project Transmission Line, all new pole locations, all pull-sites, and any new access and spur roads.

250. Please also show on this map or series the extent of pedestrian archaeological survey coverage of the three routes.

BACKGROUND

AFC Section 1.0 indicates that the single, linear corridor that would contain the gen-tie transmission line, the natural gas pipeline, and the main plant site access road would be 6.5 miles long (p. 1-1). The Built-Environment Technical Report indicates that about 2 miles of the shared corridor would be within the plant site, and that the gen-tie transmission line would be 7.6 miles long after leaving the plant site, the main plant site access road would be 6.5 miles long after leaving the plant site, and the natural gas

pipeline would be 6 miles long after the leaving plant site (AFC Vol. II, Appendix G, Appendix F, p. 2-3).

DATA REQUEST

251. Please provide the correct on- and off-site lengths for these three linear facilities.

BACKGROUND

The first Data Adequacy Supplement [1A] (non-confidential), Att. C, includes a list with the names of 59 Native American contacts and a copy of one letter that BLM sent to the first Native American on the list. Staff needs to confirm that similar letters were sent to the other 58 contacts on the list. Staff also needs information on any responses from Native Americans since the submission of the AFC to the Energy Commission.

DATA REQUESTS

252. Please provide copies of the letters sent by BLM to the 58 other Native American groups and individuals on the Native American Heritage Commission-generated list, a copy of which was provided in the first Data Adequacy Supplement.

253. Please provide to staff copies of any responses, received by the applicant since the filing of the AFC, from Native Americans to the applicant's informational letter regarding the proposed project.

BACKGROUND

Staff reviewed the DPR 523 forms, provided by the applicant, for the newly identified archaeological resources and noted some data inconsistencies and absences. For example, for site CA-Riv-9224 (P-33-17793), the artifact identification and count data in Entry A4 are inconsistent with the same kinds of data in entry A5 (Prehistoric Component). Additionally, staff notes that for virtually every site, the same general description is provided for the "local geologic context" in Entry A10, "Environmental Setting." Because the applicant obtained and provided a geoarchaeological report in which six local landforms were identified and discussed with respect to formation and age, staff expected to see in the site forms the specification of the local landform on which each site was located. Also, the applicant completed Entry A13, "Interpretation (data potential, function, ethnic affiliation, etc.)," for very few sites. Staff believes the artifacts observed and dated for many of the recorded sites would support at least some interpretations regarding age, function, and ethnic affiliation.

Staff has not checked every site form, but finding some errors and data absences casts doubt on the data in all the forms. To compile the most basic reliable inventory of the cultural resources present in the proposed project's surface APE, staff needs to have accurate and complete site data.

DATA REQUESTS

254. Please check field notes for all newly identified sites, ensure that the data in the DPR 523 forms are correct, and revise any forms in which errors are discovered:

255. Please determine on which of the six landforms identified in the geoarchaeological report each site is located and revise Entry A10 for all site forms accordingly.

256. Please provide interpretations as to site age, function, and ethnic affiliation for as many of the sites as possible, and revise Entry A13 for the site forms accordingly.

257. Please provide, under confidential cover, the revised DPR 523 forms to staff.

BACKGROUND

Because the conclusions of the geoarchaeological report for the proposed project were based primarily on published sources and a limited amount of field work, the geoarchaeologist recommended strengthening the report's conclusions by conducting additional field work to identify and record any evidence of relict Ford Dry Lake shorelines and to use excavations to obtain data to better date particular landforms (AFC, vol. 2, app. G, app. C, p. 6). To assess the proposed project's potential impacts on buried archaeological resources, staff needs the additional information that would result from this recommended geoarchaeological field work.

DATA REQUESTS

258. Please have the project geoarchaeologist submit for staff approval a research design the purpose of which would be to gather field data with which to test and augment the preliminary conclusions in his report. The research design should include the field work recommended in the geoarchaeological report (AFC, vol. 2, app. G, app. C, p. 6), as further detailed by staff here:

    a. Verify, on the ground, the boundaries of the landforms shown in Figure 2 of the geoarchaeological report, particularly the boundary between the "Younger Mixed Alluvial and Aeolian Deposits (Qyma)" and all adjacent landforms to the north of it;

    b. Verify, on the ground, the presence and location of all relict shorelines of Ford Dry Lake, wherever they appear to occur in the APE;

    c. Investigate the landforms having the depositional energy and sedimentary characteristics (age, composition) that would have been conducive to the burial of archaeological deposits rather than those indicative of too great an age to contain archaeological deposits or too high-energy a depositional environment for the preservation of intact archaeological deposits; and

    d. Acquire and process radiocarbon samples such as charcoal, ash, or soil humates with which to date each landform.

259. Please have the geoarchaeologist implement the approved research design and provide to staff a report on the results, including more precise dates for the landforms and maps showing the refined landform boundaries and the actual and interpolated locations of relict lake shorelines, relative to the proposed project's APE, including the gen-tie transmission line.

BACKGROUND

Energy Commission and BLM cultural resources staff must conduct a California Environmental Quality Act (CEQA) analysis of the proposed project. The latter requires an analysis of a range of alternative project sites, component configurations, or generating technologies.

Cultural resources data on alternatives was not included in the AFC or AFC Data Adequacy Supplement. Staff needs these data to conduct the required alternatives analysis comparing the proposed project's impacts to cultural resources with those of a range of alternatives.

DATA REQUESTS

260. For any alternative site locations not on BLM lands (to be identified at a later date by staff), please provide to staff, under confidential cover, the following:

    a. Copies of DPR 523 site forms for all previously known cultural resources from California Historical Resources Information System (CHRIS) record searches, for the alternative locations, out to 1.0 mile beyond the sites' and associated linear facility corridors' boundaries;

    b. Copies of CHRIS reports of previous archaeological excavations and architectural surveys conducted within the boundaries of the alternative sites and their linear facility corridors;

    c. A copy of the results of the Native American Heritage Commission's (NAHC) sacred lands database search for each alternative location;

    d. Copies of all letters sent to and received from Native Americans identified by the NAHC as interested in development at each alternative location;

    e. A consultation with local historical societies and museums to establish the background history of the alternative project site locations;

    f. An examination of historic maps to identify former and extant buildings and structures, including trails, roads, and other infrastructure, aged 45 years or older, for each alternative location;

    g. A map at a scale of 1:24,000 depicting the locations of all previously known and map-identified cultural resources for each alternative location; and

    h. A discussion of the comparative advantages and disadvantages of the proposed project and each alternative location, with respect to cultural resources.

261. If the applicant has analyzed other alternatives, unique to the proposed project, please provide to staff the above requested information for each additional alternative.

BACKGROUND

The Built-Environment Technical Report (AFC, Vol. II, App. G, App. F) cites a 2005 document written by Thomas T. Taylor, cultural resources specialist for Southern

California Edison, titled, “Draft Historic Context Statement: the Southern California Transmission/Distribution Line Systems within the Angeles National Forest.” This document contains information on the Imperial Irrigation District’s Blythe-Eagle Mountain 161-kV transmission line, one of the two built-environment resources identified by the applicant as located within the area surveyed for the proposed gen-tie transmission line route and old enough to be considered for eligibility for the California Register of Historical Resources (CRHR). Staff needs a copy of this document to independently evaluate the potential CRHR eligibility of this resource.

DATA REQUEST

262. Please provide a copy of Thomas T. Taylor’s “Draft Historic Context Statement: the Southern California Transmission/Distribution Line Systems within the Angeles National Forest” (2005).

BACKGROUND

The Built-Environment Technical Report indicates that Wiley’s Well Road is of sufficient age to be considered for CRHR eligibility, but states that the proposed project would have no impact on this potential resource (AFC, Vol. II, App. G, App. F, pp. 1-1, 3-2). The report, however, is not specific about what impacts were considered: physical impacts (location, design, workmanship, materials) or perceptual impacts (setting and feeling). Staff notes that it appears that the southernmost 0.9-mile stretch of the proposed gen-tie transmission line parallels Wiley’s Well Road about 0.16 miles to the west (Wiley’s Well Road DPR 523 location map). It also appears possible that an access road and spur roads proposed for the construction and maintenance of the new transmission line would be as close or closer to the old road (AFC, p. 3-29).

Staff is concerned that these new project components could have an impact on the integrity of setting and integrity of feeling of Wiley’s Well Road. If the project could impact this potential resource, it’s eligibility for the National Register of Historic Places (NRHP) and for the CRHR must be evaluated. Additionally, neither the report nor the submitted DPR 523a (Primary) form for Wiley’s Well Road provide information on the current integrity of the potential resource. Staff thus needs more information on these possible project impacts, on the potential eligibility of Wiley’s Well Road for the NRHP and the CRHR, and on its integrity.

DATA REQUESTS

263. Please have a qualified architectural historian provide a discussion of the project’s potential impacts to the integrity of setting and integrity of feeling of Wiley’s Well Road.

264. If impacts to the integrity of setting and integrity of feeling of Wiley’s Well Road are possible, please have the architectural historian make recommendations on the eligibility of Wiley’s Well Road for the NRHP and for the CRHR, stating how the resource does or does not meet the eligibility criteria for these listings.

265. Please have the architectural historian evaluate all seven aspects of integrity for Wiley's Well Road.

266. Please have the architectural historian complete for submission to staff the DPR 523b (Building, Structure, and Object) and DPR 523e (Linear Structure) forms for Wiley's Well Road.

BACKGROUND

The Built-Environment Technical Report indicates that the Blythe-Eagle Mountain 161-kV transmission line is of sufficient age to be considered for CRHR eligibility, but states that the proposed project would have no impact on this potential resource (AFC, Vol. II, App. G, App. F, pp. 1-1, 3-2). The report, however, is not specific about what impacts were considered: physical impacts (location, design, workmanship, materials) or perceptual impacts (setting and feeling). Staff notes that it appears that the proposed new main site access road and the proposed gen-tie transmission line intersect the Blythe-Eagle Mountain 161-kV transmission line in northern part of Section 32 of Township 6S Range 20E (Blythe-Eagle Mountain 161-kV transmission line DPR 523 location map).

Staff is concerned that these new project components could have an impact on the integrity of setting and integrity of feeling of the Blythe-Eagle Mountain 161-kV transmission line. If the project could impact this potential resource, it's eligibility for the NRHP and for the CRHR must be evaluated. Additionally, neither the report nor the submitted DPR 523a (Primary) form for the Blythe-Eagle Mountain 161-kV transmission line provide information on the current integrity of the potential resource. Staff thus needs more information on these possible project impacts, on the potential eligibility of the Blythe-Eagle Mountain 161-kV transmission line for the NRHP and the CRHR, and on its integrity.

DATA REQUESTS

267. Please have a qualified architectural historian provide a discussion of the project's potential impacts to the integrity of setting and integrity of feeling of the Blythe-Eagle Mountain 161-kV transmission line.

268. If impacts to the integrity of setting and integrity of feeling of the Blythe-Eagle Mountain 161-kV transmission line are possible, please have the architectural historian make recommendations on the eligibility of the Blythe-Eagle Mountain 161-kV transmission line for the NRHP and for the CRHR, stating how the resource does or does not meet the eligibility criteria for these listings.

269. Please have the architectural historian evaluate all seven aspects of integrity for the Blythe-Eagle Mountain 161-kV transmission line.

270. Please have the architectural historian complete for submission to staff the DPR 523b (Building, Structure, and Object) and DPR 523e (Linear Structure) forms for the Blythe-Eagle Mountain 161-kV transmission line.

BACKGROUND

AFC Volume 2, Appendix E is supposed to include a preliminary report on the geotechnical investigations at the proposed project site. Staff did not find that report or any indication of either an alternate location or a projected submittal date. To assess the proposed project's potential impacts on buried archaeological resources, staff needs a copy of the geotechnical report.

DATA REQUEST

271. Please provide a copy of the geotechnical report for the proposed project when it becomes available.

BACKGROUND

In lieu of clarifying and detailing the exact number, character, and extent of ground disturbing activities that would result from the construction of the proposed project and then determining which significant cultural resources would be impacted by which activities, staff may conduct its analysis of the project's physical impacts on cultural resources at a coarser level of data resolution. Staff has developed an alternate concept of the area in which cultural resources would be impacted by the project—an alternate concept of the project area of analysis—as one large, three-dimensional spatial block, entailing the full extent of the project's below-grade impacts (inclusive of all foundations and trenches) and above-grade impacts (inclusive of all above-ground facilities), and delimiting both the project's physical impacts to surficial and buried cultural resources and perceptual impacts to the settings of built-environment resources and traditional cultural properties. Staff's analysis would entail assuming that all cultural resources located within that block would be significantly impacted by the project and that these impacts would require mitigation. For this approach, staff needs the applicant to determine the boundaries, in three dimensions, of an "impact block" for the plant site (with septic tank and leach field), for the Land Treatment Units, and for each of the linear facilities, including the stormwater diversion and detention system, gas pipeline boring pits, and stub roads, and any alternative facility corridors and alternative site locations. Staff suggests the following steps as the simplest way to accomplish this.

a. Use the footprint to provide the preliminary horizontal dimensions.

b. Expand the footprint horizontally in all appropriate directions to accommodate the viewshed of any built environment resources and/or traditional cultural properties.

This expanded footprint is the plan of the impact block.

c. Generalize the greatest vertical dimension, both into the ground and into the air, of the planned facilities to the rest of the impact block.

This is the profile of the impact block, which is a coarser resolution variant of the project area of analysis.

DATA REQUEST

272. Please provide to staff a series of scaled and dimensioned plan-and-profile views of the proposed project's (and alternative locations') impact blocks.

BACKGROUND

Staff knows that the region in which the proposed project is located has areas the use of which continue to contribute to the maintenance of cultural cohesion in known groups of Native Americans. Staff surmises that such areas played a similar role for Native Americans prior to a catastrophic disruption of traditional practices, such as the profound degradation of oral history that occurred in the early historic period among many Native American groups. To complete its analysis of the potential impacts of the proposed project on cultural resources, staff needs information on the possible presence of historically significant traditional use areas in or adjacent to the APE.

DATA REQUESTS

273. Please explicitly discuss the efficacy of modeling the potential archaeological characteristics and spatial distribution of at-this-time unknown Native American traditional use areas on the basis of available ethnographic information and theoretical principles of ethnogeography.

274. If reasonably practicable, please develop such a model and submit for staff review and approval a research plan for the field verification in the APE of the model's predictions and recordation of identified traditional use areas.

275. Please implement the staff-approved plan and provide to staff a report on the results and a comprehensive discussion of the traditional use areas in and adjacent to the project APE that may be subject to the visual impact of the construction, operation, and maintenance of the proposed project (e. g., landforms in sight of the APE on which sacred or other traditional activities took place). Please include any additional DPR 523 site forms in an appendix.

Data Requests from Christopher Dalu, Archeologist, Bureau of Land Management

BACKGROUND

The October, 2009 Revised Draft, Class II and Class III Cultural Resources Inventories for the Proposed Genesis Solar Energy Project, Riverside County, California, (hereafter: Cultural Resources Technical Report) says the area of potential effects (APE) is shown on Figures 3-a and 3-b (p. 10). fig. 3-a, in its legend, uses cross-hatching to show the APE, but the map itself has no cross-hatched areas. Neither the legend nor the map of Figure 3-b mentions or displays the APE. Staff needs a clear delineation on a map of the proposed project's surface archaeological APE.

DATA REQUESTS

276. Please provide revised Figures 3-a and 3-b showing the APE as cross-hatched areas, with the cross-hatching appropriately labeled in the legends of both figures.

277. Please provide a definition of the archaeological surface APE for the proposed project, identifying the areas included in it.

BACKGROUND

The Cultural Resources Technical Report presents counts for archaeological sites and isolated archaeological finds from both the known CHRIS database and from the results of the applicant's archaeological pedestrian survey. The latter results are presented in three parts: Class II survey, Class III survey, and transmission line survey. Because the Class II and Class III surveys overlap somewhat in coverage, and the transmission line survey is reported separately, arriving at an overall count for archaeological sites, new and previously known, and for isolated finds, new and previously known, is too complex, working with the data as provided. Staff needs these simple statistics and needs, also, a map depicting all locations for new and previously known archaeological sites in or within 200 feet of the boundaries of the APE for the entire project as proposed.

DATA REQUESTS

278. Please provide the following basic statistics, for the proposed plant site, and for any alternative plant sites:
    a. Total number of previously known prehistoric archaeological sites;
    b. Total number of new prehistoric archaeological sites;
    c. Total number of previously known historic-period archaeological sites;
    d. Total number of new historic-period archaeological sites;
    e. Total number of previously known prehistoric isolates;
    f. Total number of new prehistoric isolates;
    g. Total number of previously known historic-period isolates; and
    h. Total number of new historic-period isolates.
279. Please provide the following basic statistics, for each linear facility route, and for any alternative facility routes:
    a. Total number of previously known prehistoric archaeological sites;
    b. Total number of new prehistoric archaeological sites;
    c. Total number of previously known historic-period archaeological sites;
    d. Total number of new historic-period archaeological sites;
    e. Total number of previously known prehistoric isolates;
    f. Total number of new prehistoric isolates;
    g. Total number of previously known historic-period isolates; and
    h. Total number of new historic-period isolates.

280. Please provide a map, at a scale accommodating easy legibility, depicting all locations for new and previously known archaeological sites and isolates in or within 200 feet of the boundaries of the APE.

BACKGROUND

The Cultural Resources Technical Report provides descriptions of many of the newly discovered archaeological sites within or near the proposed project's APE, but recommended evaluative testing on only two of them. Because staff needs to evaluate all of the sites that would be impacted by the project, staff needs data from evaluative testing on all impacted sites.

DATA REQUESTS

281. For all archaeological sites for which project impacts cannot be avoided, please submit for staff approval a plan, including a research design and methods that do not entail significant impacts to the sites, for using test excavations or the CARIDAP protocol to determine if any subsurface deposits are present and to acquire sufficient data to make recommendations of National Register of Historic Places (NRHP) and CRHR eligibility for these sites, with the potential of the recovered data evaluated according to its applicability to the research questions posed in the research design. The testing plan should include the following analyses:

    a. Dating all or a sample of datable materials recovered from tested sites, including obsidian, charcoal, bone, and shell;

    b. Detailed lithic analysis of debitage addressing manufacturing techniques and sourcing of toolstone materials, including, if locally derived, an estimated collection radius; and

    c. Site-specific and landscape- or APE-based strategies for ceramic analysis to generate such attributions as source, age, mineral content, and paste characteristics that are consistent with J. Schaefer's ongoing research efforts.

282. Please provide to staff a report on the testing and results at these sites, presenting an analysis of the recovered data and recommendations regarding the NRHP and CRHR eligibility of the sites.

Other Review Approaches (Data Request Subsets)

Approach 2

If the applicant chooses cultural resources review approach 2, all of the above data requests would need to be answered except for #272.

Approach 3

If the applicant chooses cultural resources review approach 3, the above data requests that would need to be *answered* would be limited to:

234;
#s 254–261; and
#s 271–280.

Technical Area: Visual Resources
Authors: William Kanemoto and James Jewell

BACKGROUND

Simulations in the AFC are all taken from background distance zone viewpoints (over three miles). However, the project would be visible to eastbound motorists on I-10 at distances of under two miles, in the middle-ground distance zone.

DATA REQUEST

283. For the benefit of the analysis and readers, please prepare an additional simulation from eastbound I-10 at middle-ground distance, from a viewpoint east of AFC Figure 5.10-4 and west of Figure 5.10-5.

BACKGROUND

To independently evaluate visual and glare effects of the solar collector arrays (SCAs), staff requires a better understanding of the physical components.

DATA REQUEST

284. Please provide close-up photographs of SCAs of the type proposed for the Genesis project. Please include photographs showing fronts, backs and mounting structures for the SCAs. If SCAs in the photographs differ in detail from those proposed under the Genesis project, please describe the differences.

BACKGROUND

Staff is concerned about potential spread reflection visible to viewers on axis with the position of the sun at a particular time, particularly to eastbound motorists in the late afternoon, and westbound motorists in the early morning.

DATA REQUEST

285. Please characterize the maximum potential brightness (luminance) of diffuse and spread reflection from mirrors in candela per square meter.

BACKGROUND

Staff is concerned about the potential for heated Heat Collection Elements (HCEs or annulus/receivers) to be visible to off-site viewers, and to represent a potential source of glare. Staff is also concerned with the potential for direct reflection of the sun from the mirrors by-passing the HCEs due to imperfections in the reflective surfaces (divergence).

DATA REQUESTS

286. Please describe whether any portion of the HCEs would be visible to viewers on the ground, either on-or off-site. Please characterize the maximum potential brightness (luminance) of heated HCEs in candela per square meter.

287. Please explain whether any portion of the directly reflected solar radiation could pass by the HCEs (the steel tube annulus) due to the total divergence factor of the reflectors. If so, how much? Is this amount sufficient to cause any potential retinal damage or flash blindness? Are there measures that would prevent such inadvertent off-site reflection (such as shielding of the HCEs, etc.)?

Technical Area: Visual Resources – Visible Plume
Author: William Walters

Applicant's Cooling Tower Visible Plume Modeling

BACKGROUND

Staff plans to review the applicant's visible plume modeling analysis. The applicant noted on page 5.10-15 of the Application for Certification (AFC) that they would be performing a quantitative analysis of the cooling tower plumes using the SACTI model. Staff needs the applicant to provide this cooling tower plume modeling analysis to complete the cooling tower plume analysis.

DATA REQUEST

288. Please provide a copy of the applicant's cooling tower plume analysis, including an electronic copy of the SACTI cooling tower modeling input and output files including the meteorological data file(s), as well as, any raw meteorological data files (in a ready to use spreadsheet format) used to create the SACTI meteorological data input file(s).

Cooling Tower Operating and Design Data

BACKGROUND

Staff plans to perform a separate plume modeling analysis for the cooling tower and review the applicant's visible plume modeling analysis. Staff requires additional cooling tower operating information to complete this analysis.

DATA REQUESTS

289. Please summarize for the cooling towers the conditions that affect vapor plume formation including cooling tower heat rejection, exhaust temperature, and exhaust mass flow rate. Please provide values to complete the table.

Parameter	**Cooling Towers Exhausts**		
Number of Cells	7 cells (1 by 7)		
Cell Height*	13.82 meters (45.3 feet)		
Cell Diameter*	9.64 meters (31.6 feet)		
Tower Housing Length*	108.51 meters (356 feet)		
Tower Housing Width*	13.01 meters (42.7 feet)		
Ambient Temperature*	30°F	65°F	100°F
Ambient Relative Humidity	90%	40%	15%
Number of Cells in Operation			
Heat Rejection (MW/hr)			

Exhaust Temperature (°F)			
Exhaust Flow Rate (lb/hr)			

42. Cell height and diameter and tower length and width are from air quality modeling files.

43. Additional combinations of temperature and relative humidity, if provided by the applicant, will be used to more accurately represent the cooling tower exhaust conditions. Please include appropriate design safety margins for the heat rejection, exhaust flow rate and exhaust temperature in consideration that the air flow per heat rejection ratio may be used in a Condition of Certification confirmation of design limit.

290. Please provide the variation in average cooling tower heat load per hour (military time) for each month.

291. Please provide heat rejection reduction assumptions, with or without corresponding ambient condition assumptions, which staff can use to determine when cooling tower cells would be shut off when operating at reduced cooling loads and/or when operating under favorable ambient conditions.

292. Please provide the cooling tower manufacturer and model number information and a fogging frequency curve from the cooling tower vendor for the two cooling towers, if available.

293. Please identify if the cooling tower fan motors will be dual speed or have variable speed/flow controllers.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION FOR THE *GENESIS SOLAR ENERGY PROJECT*

Docket No. 09-AFC-8

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(Est. 11/30/09)

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DECLARATION OF SERVICE

I, Maria Santourdjian, declare that on December 10, 2009, I served and filed copies of the attached Data Requests Set 1B (#228-292) for Genesis Solar Energy Porject, dated December 9, 2009. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
[http://www.energy.ca.gov/sitingcases/genesis_solar].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

__x__ sent electronically to all email addresses on the Proof of Service list;

__x__ by personal delivery or by depositing in the United States mail at Sacramento, California, with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses NOT marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

__x__ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

_____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-8
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

Original Signature in Dockets
Maria Santourdjian