CALIFORNIA ENERGY COMMISSION
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SACRAMENTO, CA 95814-5512
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June 18, 2009

DOCKET
08-AFC-5
DATE JUN 18 2009
RECD. JUN 18 2009

Robert B. Liden,
Executive Vice President
SES Solar Two, LLC
2920 E. Camelback Road, Ste. 150
Phoenix, AZ 85016

RE: STIRLING ENERGY SYSTEMS SOLAR TWO PROJECT (08-AFC-5) - DATA REQUESTS SET 2, PART 2 (#s 142-155)

Dear Mr. Liden:

Pursuant to Title 20, California Code of Regulations, Section 1716, the Bureau of Land Management (BLM) and California Energy Commission (Energy Commission) staff seek 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.

Part 2 of this second set of data requests (#142-155) is being made in the areas of Cultural Resources (#142-150) and Public Health and Safety (#151-155). In order to publish the joint Preliminary Staff Assessment/Draft Environmental Impact Statement without undue delay, written responses to the enclosed data requests are due to the BLM and Energy Commission staff on or before July 18, 2009, or at a later date agreed to by the applicant, BLM, and the Energy Commission.

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, Section 1716 (f)).

If you have any questions, please call me at (916) 653-1639 or email me at cmeyer@energy.state.ca.us.

Sincerely,

Original signed by
Christopher Meyer,
Project Manager

Enclosure
cc: Docket (08-AFC-5)
Proof of Service List

PROOF OF SERVICE (REVISED 5/26/09) FILED WITH ORIGINAL MAILED FROM SACRAMENTO ON 6/18/09
AA

TECHNICAL AREA: Cultural Resources
AUTHORS: Michael D. McGuirt and Carrie L. Simmons

Where the disclosure of information on the location or the character of cultural resources may create a substantial risk of harm, theft, or destruction, one must submit such information under cover of an application for confidential designation pursuant to title 20, California Code of Regulations, section 2505.

The data requests immediately below relate to information that staff, of both the California Energy Commission and the US Bureau of Land Management (BLM), need to complete their respective cultural resources analyses under CEQA and NEPA.

BACKGROUND

One important focus of the initial round of cultural resources data requests (CEC 2008, Data Requests 111–127) was the discussion of the individual archaeological site descriptions in the September 2008 revision to the applicant's *Class III Confidential Cultural Resources Technical Report* (Technical Report). The purposes of Data Requests 113 and 117 were to solicit revisions to the site descriptions in the September 2008 Technical Report that would better identify and articulate the physical context of each archaeological site in the project area of analysis, and better describe and interpret the contents of and the spatial patterns that structure the material culture deposits that make up each site.

Data Request 113 sought to have the applicant revise the portion of each archaeological site description that places each site on a landform in the project area. Staff asked that the applicant use more standard geomorphic conventions to describe the landforms and subordinate landform features that physically bound each site, correlate the selection and use of those conventions with the results of the geoarchaeological research that staff sought in Data Requests 111 and 112, and consistently apply the revised conventions throughout the whole body of the archaeological site descriptions.

Data Request 117 asked the applicant to revise the portions of the archaeological site descriptions that articulate the lateral distribution of the components of site archaeological deposits, components such as artifact and ecofact scatters and concentrations, archaeological features, and architectural ruins, and that describe the content and the character of site artifact and ecofact assemblages. Staff asked that the revisions reflect more objective and higher resolution descriptions of the material character of the archaeological sites so that staff and the public would have a sound factual basis to know and to evaluate the historic significance of the individual resources that make up the archaeological site inventory of the project area. Staff found that the archaeological site descriptions in the September 2008 Technical Report did not facilitate one's ability to discern the age, function, or cultural affiliation of the subject archaeological deposits, and did not reflect the guidance specified in Data Request 117 for the applicant to follow to make the site descriptions more useful. Staff further requested that the applicant conclude each archaeological site description with the applicant's assessment of the integrity of each site and preliminary interpretations of the character of and date range for the use of each site.

The April 2009 revisions to the archaeological site descriptions in the Technical Report do not adhere well to staff guidance for those revisions. It is not apparent that the revisions develop or use standard geomorphic conventions to describe the landforms and subordinate landform features that are the physical context for each site, nor do the revisions appear to correlate the sites with the geomorphic mapping units that are the result of the landform study that is the applicant's response to Data Request 112 (SES Solar Two 2009:CUL-3–CUL-15).

The April 2009 revisions to the archaeological site descriptions also do not adhere well to staff guidance on the description or the interpretation of the archaeological deposits that make up each site. The descriptions of the distribution and character of site components and of site artifact and ecofact assemblages offer marginally more detail, and in some cases less, than the September 2008 revision of the Technical Report. The April 2009 revisions also do not attempt to provide reasoned interpretations of the origin and use of subject site components, estimates of the age of overall site deposits or constituent components, a basic cultural context for each site component, or explanations of why the applicant believes that particular components may lack integrity.

Staff brought the issue of the adequacy of the archaeological site descriptions up for discussion during the May 7, 2009 BLM and Energy Commission Staff Second Data Response Workshop. Staff pointed out those areas where the April 2009 revisions to the archaeological site descriptions do not appear to reflect staff guidance in Data Requests 113 and 117, and reiterated that staffs' ability to formulate preliminary interpretations of the historical significance of the archaeological resources in the project area of analysis, to publicly evidence a reasoned analysis of the potential impacts of the proposed project on significant archaeological resources, and to develop substantive mitigation for any such impacts that have the potential to be substantial and adverse is wholly dependent on having a reliable catalog of those archaeological resources. Staff informed the applicant that the second round of cultural resources data requests would ask the applicant to again revise the archaeological site descriptions to more closely conform to the guidance of Data Requests 113 and 117, and would further provide the applicant with a standard template for the descriptions in an effort to facilitate a more expeditious conclusion to this issue. The applicant asked if staff would provide the template in advance of the publication of the second round requests. Staff agreed and provided the applicant with the subject template on May 15, 2009 (Attachment 1).

Throughout the ongoing discussion of the adequacy of the archaeological site descriptions for the proposed project, staff has concurrently sought to independently field verify or ground-truth the archaeological data in the Technical Report. Staff wants to ensure the reliability of the basic location information for the archaeological sites in the project area of analysis, the archaeological site boundary information, and the documentation of the material remains on each site. On the basis of preliminary fieldwork by BLM El Centro Field Office staff and their consultants on May 8, 2009, a field study was conducted from May 20–22, 2009 to ground-truth a 20 percent sample of the archaeological sites in the project area of analysis for the above types of information. The preliminary results of the field study (Lange 2009) indicate that the documentation for approximately 43 percent of the newly found archaeological sites in

the proposed project area is significantly deficient. Significantly deficient means that the existent documentation fails to reasonably accurately describe the dimensions, the spatial organization, or the material culture content of the subject archaeological sites. The use of significantly deficient documentation to analyze the character of the impacts of the proposed project on cultural resources or to develop measures to mitigate such impacts by BLM and Energy Commission staff would be illegitimate and would potentially constitute a breach of public trust. The applicant must provide a reasonably accurate body of documentation that agency staffs can use to conclude their respective analyses under NEPA, Section 106, and CEQA. The preliminary results of the field study also indicate a statistical probability that there are approximately 30 additional archaeological sites in the project area that were not discovered in the applicant's initial archaeological surveys. This result further compromises the integrity of the basic documentation of the inventory of cultural resources in the project area. The new data requests below reflect, in part, the results of the field study, which augment the ongoing discussion of the adequacy of the archaeological site descriptions.

DATA REQUESTS

142. Staff respectfully requests that the applicant conduct a program to revisit the newly found archaeological sites in the proposed project area. The program would entail returning to each site and verifying the accuracy of the extant site documentation. Staff requests that the applicant revisit all of the newly found archaeological sites that the recent field study found to have significantly deficient site documentation (Group III, Lange 2009) and the balance of the archaeological sites that were not subjects of that study.

    The verification process would include the close-quarter ($\leq$ 3 m transect intervals) resurvey and pin flag marking of the artifacts, ecofacts, features, and architectural ruins that make up each site, the re-demarcation of each site boundary, and the boundary of each intrasite material culture concentration and of each potential deposit of anthropogenic sediments. The verification process would then entail checking each site and intrasite boundary for accuracy, and checking the accuracy of the extant documentation on the types and the frequency of the material culture present both across each site and in the intrasite material culture concentrations. Where prior site documentation only notes the material culture classes present on a site or in an intrasite material culture concentration, such as glass, ceramics, or tin cans, the applicant needs to refine the documentation to include material culture types, such as manganese-decolorized embossed panel bottle with an applied finish, turquoise Fiesta ware soup bowl rim fragment, or matchstick-filler evaporated milk tin.

    Staff recommends that the applicant also use the opportunity of revisiting the newly found archaeological sites to more precisely observe and document the geomorphic context of each site, making use of revised geomorphic conventions to describe project area landforms and subordinate landform features and correlating the sites with the geomorphic mapping units that are the result of the applicant's recent landform study.

143. Please revise the April 2009 descriptions of the newly found archaeological sites in the proposed project area to more closely conform to the guidance of Data Requests 113 and 117, using the Template for Class III, Phase I Archaeological Site Descriptions of Attachment 1. Please note that it is critical to the interpretation and preliminary evaluation of the historic significance of site components to discuss potential cultural contexts for each site component. Such contexts make explicit the prehistoric or historic themes to which each component has the potential to relate. As one example, the discussions of archaeological site components that are historic refuse deposits adjacent to the historic San Diego and Arizona Railroad need to comment on the potential for such deposits to provide important data sets that may relate to aspects of the construction, operation, and maintenance of an early twentieth century railroad such as railroad construction technology, organization of railroad corporations, or labor relations.

144. As a further aspect of the above revisions to the descriptions of the newly found archaeological sites in the proposed project area, please revise the descriptions of the sites in Group II from the recent field study (Lange 2009) to include all of the additional pertinent site information that the applicant appears to have in-hand.

BACKGROUND

One cultural resources issue that the staff assessment needs to take into consideration is whether and how the construction, operation, and maintenance of the proposed project may destroy or degrade historically significant traditional use areas, areas the use of which substantively and demonstrably continue to contribute to the maintenance of cultural cohesion in known groups of people, or can reasonably be surmised to have done so 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.

The purposes of Data Requests 118 and 119 were, respectively, to model the archaeological signatures of potential Native American traditional use areas in the project area of analysis to facilitate the recognition of such areas the knowledge of which present remnant populations of local Native American groups may have lost, and, in conjunction with known Native American traditional use areas, to provide a preliminary analysis of the potential visual impacts of the proposed project on a more complete inventory of such use areas.

The applicant's response to Data Request 118 does not explicitly develop a model of the archaeological character or the distribution of the types of traditional use areas that, on the basis of local ethnographic information, one may anticipate finding in the project area of analysis. The response provides ethnographic information on Native American groups, other than the Kamia and the Cahuilla, that appear to have had ancestral associations with lands in the project area of analysis, but does not ultimately draw together a discussion of the *potential* constellation of traditional use areas that may be subject to physical impact in the project area or subject to visual impact in the broader project area of analysis. This discussion is necessary to the preparation of the cultural

resources analysis for the proposed project, because it would serve to bound the project area of analysis for cultural resources, and it would publicly evidence the due consideration of the potential of the project to impact historically significant traditional use areas.

The applicant's response to Data Request 119 does not, due in part to the incomplete response to Data Request 118, provide a sufficient discussion of the traditional use areas in the project area of analysis that may be subject to the visual impact of the construction, operation, and maintenance of the proposed project. The response to Data Request 119 does include pertinent information on the character and the potential visual impact of the proposed project on known archaeological sites in the project area that may have sacred or ceremonial attributes, and on known traditional elements of the cultural landscape to the south of Interstate Route 8. The response does not, however, address the question of whether there may be landforms in sight of the project area on which other unknown traditional use areas may be present.

DATA REQUESTS

145. Please complete the response to Data Request 118 by explicitly discussing the efficacy of modeling the potential archaeological character and distribution of unknown traditional use areas on the basis of available ethnographic information and theoretical principles of ethnogeography, and, if reasonably practicable, by developing such a model.

146. Please complete the response to Data Request 119 by explicitly discussing whether and where there may be landforms in sight of the project area on which other unknown traditional use areas may be present. The content of the discussion that will complete the response to Data Request 118 should inform the further response to Data Request 119.

BACKGROUND

The preliminary division of the cultural resources inventory of the project area of analysis into objective subsets is critical to the comprehension of the inventory, and to the analysis of the potential impacts of the proposed project on it and the development of appropriate mitigations for any such impacts. The purpose of Data Request 120 was to initiate the division of the cultural resources inventory into useful subsets on the basis of explicit and objective criteria. The data request and the background to the request asked that the applicant split the cultural resources in the project area of analysis into objective resource types on the basis of objective criteria, and split the resource types further into chronological groups. The resource taxonomy that the applicant devised in response to Data Request 120 is not wholly objective or useful, and does not break the inventory into chronological groups.

The resource taxonomy defines isolate artifacts, six largely prehistoric resource types, five largely historic resource types, and one relatively nondescript resource type. The six prehistoric resource types include two types of artifact scatters (lithic scatters, and lithic and ceramic scatters), a broad type that encompasses most archaeological deposits with classes of material culture in addition to lithics and ceramics, and types for

isolate cremations, trail segments, and geoglyphs. The broad type is referred to as "open camp," a nominally objective descriptor, and potentially represents a diverse range of behavioral loci. To qualify as an open camp, an archaeological deposit need only have one of six designated classes of artifacts or features (lithics, ceramics, groundstone, unique artifacts, cremations, or fire features or a fire-affected rock scatter). As defined, the open camp resource type overlaps with three of the other prehistoric resource types. The open camp type does not facilitate comprehension of or planning for the cultural resources inventory, and needs, therefore, to be reconsidered. The "other sites" resource type does not meaningfully subdivide the inventory and needs to be dropped in favor of more explicit descriptors of the subject archaeological deposits.

DATA REQUESTs

147. Please revise, in the text of the *Methods* section and in table 5-4 of the *Report of Findings* section of the April 2009 revision of the Technical Report, the cultural resources taxonomy to more objectively reflect the character of the archaeological deposits in the project area of analysis, and further divide each type into preliminary chronological groups. Staff recommends dropping the open camp resource type in favor of multiple individual types that more precisely articulate the archaeology of the resources. As examples, surface deposits of chipped stone and ground stone artifacts and ceramic sherds would type out, simple enough, as a "chipped and ground stone artifact and ceramic scatter." A deposit that includes one or more intact hearths and ceramic sherds would type out as "fire feature and ceramic scatter." The interpretation of the individual archaeological site types as resource procurement areas, resource processing areas, temporary camps, base camps, and so on would perhaps occur in the *Discussions and Interpretations* section of the Technical Report. Such interpretation is a necessary element of the evaluation of the historical significance of each resource and a necessary precursor to the appropriate disposition of the cultural resources inventory.

148. Please revise the preliminary chronological grouping of the prehistoric and historical archaeological deposits to draw on the available sources of chronological data. For prehistoric archaeological sites, the preliminary chronological groups ought to reflect the cultural chronology of the *Setting* section of the April 2009 revision to the Technical Report and be made, where feasible, relative to sources of relative chronological data such as the most recent projectile point, ceramic, and "unique artifact" typologies. For historical archaeological sites, the preliminary chronological groups similarly ought to be made relative to the most recent ceramic, bottle and bottle glass, and tin can typologies, and, where applicable, the typologies for less frequent artifact classes such as nails, ammunition, and buttons, and reflect, at a minimum, the broad historic periods set out in the *Settings* section, if not narrower time ranges within those periods.

BACKGROUND

One of the two known and previously recorded archaeological districts in the project area of analysis was originally thought to be the Lake Cahuilla Recessional Shoreline

Archaeological District. Data Request 122 sought to understand the source and the intent of the criteria for designating contributors to the district, criteria that the applicant had referred to in the *The Southwest Lake Cahuilla Recessional Shoreline District* section of the September 2008 revision to the Technical Report.

In response to Data Request 122, the applicant states that, upon further consideration, there are no prehistoric archaeological sites in the project area of analysis that are part of the Lake Cahuilla Recessional Shoreline Archaeological District. The applicant explains that the archaeological sites that were originally thought to contribute to this district do not appear to exhibit the "recessional aspect" that is a key element of the historic theme of that district. The applicant, in turn, proposes a new district, the Lake Cahuilla High Water Mark Archaeological District, to ostensibly better represent the historic theme or themes to which the subject archaeological sites do appear to relate, and proposes three principal criteria relative to which sites would be assessed as potential district contributors (SES Solar Two 2009:CUL-38). Staff needs further clarification on the three criteria for the new district in order to more completely evaluate and concur in their utility.

DATA REQUESTs

149. The three criteria which the applicant proposes to use for the assessment of prehistoric archaeological sites in the project area of analysis as contributing elements of the Lake Cahuilla High Water Mark Archaeological District do not clearly correspond to or set out concepts of the boundary, the historic theme or themes, or the period of significance for the new district. Please draft a preliminary evaluation of the potential historic significance of the new district that follows the guidance of National Register Bulletin 36 (*Guidelines for Evaluating and Registering Archeological Properties*, 2000), and, at a minimum, includes a discussion and rationale for the preliminary boundary of the district, the historic themes or contexts that unify district archaeological sites, and a discussion and rationale for the preliminary period of significance for the district.

150. On the basis of the above preliminary evaluation, please revise the criteria for assessing district contributors to more clearly correspond to the preliminary district boundary, the historic themes or contexts for which the district is thought to be historically significant, and the preliminary period of significance for the district. In addition, please make sure that the criteria also include a criterion that addresses a minimum standard of depositional integrity for district contributors.

REFERENCES

CEC 2008 — California Energy Commission/C. Meyer (tn 49233). SES Solar Two Data Request Set 1 Part 2 (53-127), dated 12/02/08. Submitted to CEC/Docket Unit on 12/02/08.

Lange 2009 — Frederick W. Lange. Cultural Resources Site Location and Cultural Content Ground-Truth Task: Levels I and II Evaluations and Recommendations. Prepared for US Bureau of Land Management, El Centro Field Office, El Centro, California. LSA Associates, Inc., Irvine, California. June 4, 2009.

SES Solar Two 2009 — SES Solar Two, LLC/A. Leiba (tn 50625). In Response to CEC & BLM Data Requests 1–3, 5–10, 14, 24–26, 31–33, 36–38, 44 and 111–127, Application for Certification (08-AFC-5), SES Solar Two, LLC, dated March 2009. Submitted to CEC/Docket Unit on 03/19/09.

ATTACHMENT 1

California Energy Commission Staff Template for Class III, Phase I Archaeological Site Descriptions

Energy Commission staff here provides a template for the description of archaeological sites on the basis of data that one would gather as a result of a class III, phase I intensive pedestrian cultural resources survey. The template represents consultation and consensus between Energy Commission staff and the staff of the El Centro Field Office of the Bureau of Land Management (BLM).

The present template represents informal guidance from Energy Commission and BLM staff about the level of information that staff needs to reasonably well inform the analysis of the potential impacts of the proposed project on cultural resources and to develop the protocols and procedures that would ensure the avoidance, minimization, or mitigation of any such impacts. The intent of the template is to provide the applicant with further, more concrete clarification and direction on Data Request 117.

Please note that staff has not completed the entire outline. Subheaders such as II.B.3 that have a greater amount of detail are to be extrapolated by the applicant to other analogous subheaders. The applicant is free to organize the information in the template differently to better suit the style of the authors who will revise the site descriptions for the proposed project. Staff only requests that the applicant chose one consistent format and include all of the information set out and implied by the template below.

An example site description from an unrelated project is provided below to help clarify the template. The example description is written from a staff perspective. The applicant would naturally need to adjust the perspective to that of the applicant. The resultant site descriptions are to be incorporated, *en masse*, into the BLM technical report, and will be added to by Energy Commission staff and incorporated into the joint staff assessment/Environmental Impact Statement. The use of phrases in the example that refer to information that is “unreported” or that is “reported to be” indicates, in the former case, information that the applicant should have provided but did not, or, in the latter case, information for which the applicant does not provide compelling descriptive context. In contrast to the example description, the preliminary evaluations that are to be written under IV below should make reference to both the National Register of Historic Places and the California Register of Historical Resources (CRHR).

Site Description Template

I. Objective Site Overview

   A. Objective General Physical Description of Site Archaeology

   B. Location of Site Relative to Project Area

C. Assessment of Site Deposit Depth

D. Geomorphic Location of Site

E. Physical Character of Site Surface

F. Site Surface Vegetation

II. Objective Descriptions of Site Loci, Architectural Ruins, Features, and Material Culture Concentrations and Scatters

A. Objective Physical Description of Material Components of Site, by Apparent and Defensible Chronological Period, and Component Articulation

B. Prehistoric Archaeological Site Components

1. Archaeological Loci Descriptions

a. Objective Physical Description of the Number and Intra-Locus Distribution of B.2–5 Below, as Applicable

b. Individual Objective Physical Descriptions of Each Component in B.1.a Above

2. Architectural Ruin Descriptions

3. Archaeological Feature Descriptions

a. Objective General Physical Description of Feature

b. Location of Feature Relative to Other Site Components

c. Objective Descriptions of Feature Structure, the Material Constituents of the Feature, and the Feature Fill

d. Known Dimensions of Feature and Assessment of Dimension Accuracy

e. Inventory of Artifact and Ecofact Constituents of Feature Fill that Follow Guidance of Data Request 117.c.

4. Material Culture Concentration Descriptions that Follow Guidance of Data Request 117.c.

5. Material Culture Scatter Descriptions that Follow Guidance of Data Request 117.c.

C. Historical Archaeological Site Components

1. Archaeological Loci Descriptions

2. Architectural Ruin Descriptions

3. Archaeological Feature Descriptions

4. Material Culture Concentration Descriptions

5. Material Culture Scatter Descriptions

III. Site Geoarchaeology

A. Thorough Description of Geomorphic Context of Site Material Constituents

B. Discussion of Influence of Landform Depositional Regime on Site Formation

C. Discussion of Influence of Landform Depositional Regime on Site Taphonomy

IV. Preliminary Evaluations of Historic Significance of Site Temporal Components

A. Preliminary Evaluation of Prehistoric Components

1. Behavioral Interpretation of Prehistoric Components

2. Preliminary Evaluation of Historic Significance of Prehistoric Components as

a. Individual Resources

b. Contributing Elements to Existing or Potential Prehistoric Archaeological Districts or Landscapes

3. Assessment of Need of Additional Information to Conclude Evaluation of Prehistoric Components

B. Preliminary Evaluation of Historical Components

Example Site Description

Site 3 is an oblong archaeological deposit that includes both prehistoric and historic components. The deposit is approximately three-quarters of mile to the west of the project site and 300 feet west of SR 14. The long axis of the deposit parallels and is adjacent to an improved dirt road that runs roughly northwest from SR 14 to a nearby electrical substation. The prehistoric component appears to be a surface phenomenon, while the historic component appears to occur in both surface and subsurface contexts. The present site surface appears to be on a mid-to-lower slope of the Pine Tree Wash alluvial fan. The predominant vegetation type on the site appears to be Mojave Creosote Bush Scrub.

The surface component of the site measures approximately 127 meters from northwest to southeast and 37 meters from northeast to southwest, and includes three concentrations of predominantly historic artifacts, which appear to be partially buried. Surface observations of the concentrations suggest that shallow depressions may have been mechanically excavated through the gravelly deposits on this portion of the Pine Tree Wash alluvial fan, filled with historic refuse, and then partially buried with the excavated dirt and gravel. The archaeologists for the applicant note that construction-related debris and miscellaneous hardware dominate the overall artifact assemblage of the concentrations, although household refuse is present.

Concentration 1, the most northwesterly of the three concentrations on the site, includes the entire prehistoric component of the site, in addition to a concentration of historic artifacts. The concentration measures 5.5 meters from north to south and 6 meters from

east to west. The prehistoric component is a sparse scatter of 10 artifacts which includes 1 core, 1 unmodified nodule of obsidian, and 8 stone flakes. The further character of the artifacts is unreported. The historic component of Concentration 1 includes glass, ceramic, tin can, wood, and metal assemblages, and automobile parts. The glass assemblage includes what is reported to be a wine bottle fragment, 11 fragments of flat (window) glass of unreported color, 2 fragments of aqua glass, and 15 fragments of what are reported to be pink frosted glass. The ceramic assemblage is reported as polychrome, glazed, and earthenware fragments. The tin can assemblage includes what is reported to be a Prince Albert tobacco tin and modern food tins (sanitary cans) of unreported character. The wood assemblage is milled lumber of unreported quantity, dimensions, or finish. The metal assemblage includes 1 metal spike, crown caps, 1 gun cartridge, 1 spring, and 15 wire nails. The automobile parts include tire fragments, one air filter, one hose, and an unreported quantity of nuts. The further character of the artifacts in Concentration 1 is unreported.

Concentration 2, approximately 41 meters southeast of Concentration 1, is a historic refuse deposit and measures approximately 4 meters from north to south and 3 meters from east to west. The concentration includes glass, ceramic, tin can, and metal assemblages, and automobile parts. The glass assemblage includes one Delaware Punch bottle fragment with the embossed date of “March 4 1924” (bottle patent date), and two fragments of brown glass. The ceramic assemblage appears to be reported as three glazed ceramic tile fragments. The tin can assemblage is reported to be a Prince Albert tobacco tin. The metal assemblage is four wire nails and an unreported quantity or type of wire mesh. The balance of the reported portion of the concentration is reported as miscellaneous car parts. The further character of the artifacts in Concentration 2 is unreported.

Concentration 3, roughly adjacent to and southeast of Concentration 2, is a historic refuse deposit that measures approximately 5 meters from north to south and 5 meters from east to west. The concentration includes glass, ceramic, and metal assemblages, and automobile parts. The glass assemblage includes one fragment of frosted glass of unreported color. The ceramic assemblage includes what is reported to be two glazed porcelain tile fragments and one earthenware fragment. The metal assemblage is one wire fan cover, one crown cap, and three wire nails. The balance of the reported portion of the concentration is reported as miscellaneous car parts. The further character of the artifacts in Concentration 3 is unreported.

The more particular physical context for Site 3, extrapolating information from Cultural Resources Figure X to the location of the site, appears to be landform designation Hf3 (see “Geoarchaeology Study” subsection, above). The surface and subsurface aspects of the landform represent moderate- to high-energy deposition of rocks and sediment by water flowing through ephemeral stream channels on and across the middle slopes of the Pine Tree Wash alluvial fan. Although it is presently not known whether the site includes subsurface prehistoric archaeological deposits, older archaeological materials on and in this part of the alluvial fan are less likely to retain spatial associations that reflect the behavior of the people who made, used, or discarded such materials. Older artifacts found on the surface of the alluvial fan or eroding out of the deposits of rock and sediment that form it have often been washed down from a higher elevation and have simply become another part of the inorganic matrix of the fan. Archaeological

materials rearranged in such a manner rarely offer the potential to yield information important to prehistory or history.

The archaeologists for the applicant interpret the historic component of Site 3 to reflect three dumping events in the early-to-mid-twentieth century. They cite the apparent similar method of refuse disposal among the three concentrations and the relative similarity of the artifacts in the concentrations as evidence that the same individual or group of people are likely to have been responsible for the deposits and that the deposits may originate from a single source. The archaeologists recommend that Site 3, be found ineligible for listing in the CRHR, primarily due to the difficulty in associating the deposit with important historic themes or persons.

The archaeologists did conduct additional archival research for the evaluation program. The study of five USGS maps for the area that date 1915, 1923, 1943, 1947, and 1956 found no structures along the improved dirt road that now fronts the site or within one mile of the site. While the resolution of the documentation for the deposits makes it difficult to assess the actual date ranges that they represent and to thereby more narrowly focus the potential association of the deposits with important historic themes or persons, staff nonetheless recommends that the historic component of Site 3 is not eligible for listing in the CRHR, because it is highly improbable that the deposit, which appears, on the basis of the above information and a field inspection of the site by staff, to be a Depression-era assemblage, would ever be able to yield information important to the early twentieth-century history of the western Mojave Desert.

The archaeologists for the applicant do not explicitly address whether the prehistoric component of Site 3 is eligible for listing in the CRHR. The sparse character of the surface assemblage, the apparent absence of archaeological materials that would facilitate the placement of the deposit in time, and the apparent loss of the original spatial associations among the artifacts in the assemblage for the site would appear, collectively, to indicate that the component does not have the potential to yield information important to prehistory. Staff therefore recommends that the prehistoric component of Site 3 is not eligible for listing in the CRHR.

Technical Area: Public Health and Safety
Author: Dr. Alvin Greenberg

BACKGROUND

Section 5.16 (Public Health and Safety) of the AFC states that public health impacts will be minimal due to the lack of emission sources. The only stationary sources of Toxic Air Contaminants (TACs) from project operations will be from weekly tests of the diesel engines that drive the emergency fire water pump and the emergency generator. However, not included as an emission source, are mobile sources such as the diesel trucks that will be used to carry maintenance personnel and wash-water for the cleaning of the mirrors.

In order to properly assess the risk posed to workers at the site and the off-site public, staff needs further information on the historical use of the emergency diesel engines at times other than weekly testing and emissions of Diesel Particulate Matter (DPM) from vehicles used on-site.

DATA REQUESTS

151. For the emergency generators:
    a. Please provide historical use patterns of the emergency generator providing power at other facilities that use the Stirling SunCatcher technology.
    b. Please include the frequency and duration of diesel power generation use.

152. Please provide the same historical use information for the emergency fire water pump when activated to fight fires.

153. Please add those DPM emissions and the weekly testing DPM emissions provided in the AFC to arrive at an estimated average daily and average annual DPM emission factor over a 30-year facility lifetime. Include all calculations used to arrive at those estimates.

154. Please provide DPM emission factors for on-site solar field and equipment maintenance activities in pounds per day and tons per year. This value can be submitted as a single number estimate of total emissions from all vehicular sources used on-site.

155. Please provide a cumulative PM2.5 emissions estimate on a daily and yearly basis when fugitive dust emissions are added to the DPM emissions from the above stationary and mobile sources, assuming that all DPM from diesel engines are PM2.5.

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 SES SOLAR TWO PROJECT

Docket No. 08-AFC-5

PROOF OF SERVICE
(Revised 5/26/09)

APPLICANT

*Robert B. Liden,
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DECLARATION OF SERVICE

I, April Albright, declare that June 18, 2009, I served and filed copies of the attached Stirling Energy Systems Solar Two Project (08-AFC-5) - Data Requests Set 2, Part 2 (#s 142-155), dated June 18, 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: [www.energy.ca.gov/sitingcases/solartwo]. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

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

__✓__ by personal delivery or by depositing in the United States mail at Sacramento, CA 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:

__✓__ 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. 08-AFC-5
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 signed by
April Albright