

CALIFORNIA ENERGY COMMISSION

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California Energy Commission

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08-AFC-8A

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November 2, 2012

Hydrogen Energy California, LLC
Marisa Mascaro
Senior Environmental Project Manager
SCS Energy, LLC
30 Monument Square, Suite 235
Concord, MA 01742

Regarding: **HYDROGEN ENERGY CALIFORNIA PROJECT (08-AFC-8A),
Staff's Data Requests Set # 3, A181 through A217**

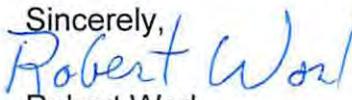
Dear Ms. Mascaro,

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission staff requests 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.

These data requests, numbered A181 through A217, are being made in the technical areas of Cultural Resources, Land Use, Noise, Alternatives, Visual Resources and Waste Management. Written responses to the enclosed data requests are due to the Energy Commission staff on or before December 3, 2012.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to the Committee and to me within 20 days of receipt of this request. The notification must contain the reasons for the inability to provide the information or the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (f)).

If you have any questions regarding the enclosed data requests, please call me at (916) 651-8853 or email me at Robert.Worl@energy.ca.gov, or you may also contact John Heiser at (916) 653-8236 at John.Heiser@energy.ca.gov.

Sincerely,

Robert Worl
Siting Project Manager

Enclosure (Data Request Packet)
cc: Docket (08-AFC-8A)
POS List

PROOF OF SERVICE [REVISED 10/8/12] FILED WITH
ORIGINAL IN SACRAMENTO ON 11/2/12

DLS

**HYDROGEN ENERGY CALIFORNIA
(08-AFC-8A)**

Energy Commission Staff's Data Requests A181-A217

November 2, 2012

Technical Area: Cultural Resources
Authors: Melissa Mourkas
Elizabeth A. Bagwell
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Gabriel Roark

All responses to these Data Requests containing references to specific archaeological site locations or information, or resources of concern to Native Americans, must be submitted under a request for confidentiality.

Background

Historic built environment studies were conducted in 2009 and 2012 to support the AFC and Amended AFC; separate reports were prepared for each inventory (JRP Historical Consulting 2009, 2012). Historic built environment resources were recorded as a result of both studies and were documented in the reports and on Department of Parks and Recreation 523 forms (DPR 523 forms).

Despite changes to the proposed project between 2009 and 2012, historic built environmental resources recorded in 2009 still cross the project area of analysis (PAA).

The Amended AFC (HECA 2012: 08-AFC-8A) proposes a linear corridor for a rail line. The corridor is shown on Map 2, Historic Architectural Resources Study Area with Defined Resources, Sheets 4-6, as submitted in April, 2012. The DPR 523 forms submitted with the revised project, April 2012, are keyed to the Map Reference Numbers on Map 2. Some of the DPR 523 forms contain photographs and/or location references which, due to the revised project footprint, are now outside of the proposed Project Area of Affect (PAA).

Staff has conducted a windshield survey of the PAA and noted that some of the resources have been altered since they were previously recorded. The built environment resources in the PAA are linear resources that go well beyond the PAA, therefore the nature and integrity of the resource within the PAA could be substantially different from that outside of the PAA.

As part of staff's environmental impact analysis, staff is requesting this level of analysis in order to understand what portion(s) of the resource could be affected by the proposed project. Staff requests that the DPR 523 forms for the following resources, identified by their map reference number, be updated to include current photographs of the resource within the current PAA, a current photograph location map and updated evaluation of the resource based upon the current PAA and changes that have occurred to the resource in the ensuing years since the original application in 2008.

Data Requests

A181. Map Reference Number 2: Southern Pacific Asphalto/McKittrick Branch.

- a. Please provide current photographs of the rail line and spur as they appear within the current PAA and update the evaluation as needed to specifically discuss this portion of the resource. Record where the spur line ends and/or meets the main line within the PAA. Update the sketch

map to reflect the current PAA and location of the resource. Update the section views to reflect the existing conditions.

- b. Provide a discussion of how the proposed Rail Laydown Yard (URS 2012: Figure 5.10-2 [1]) would impact either the existing rail line or the historic spur identified on the DPR 523 form for Map Reference Number 2.

A182. Map Reference Number 3: PG&E and SCE Transmission Lines and Towers.

- a. Label photos on the previously submitted DPR 523 form and indicate on a sketch map where they were taken. Confirm that the photo locations are within the revised PAA. If not, provide updated photographs of the lines and towers within the PAA and clearly marked locations on a map.

A183. Map Reference Number 10: Old Headquarters Weir.

The Old Headquarters Weir appears to have experienced significant changes to the structure since the photographs were taken in 2009 and the resource evaluated on the DPR 523 form submitted with the application. In light of those changes, address the following potential integrity issues:

- a. Please confirm that the steel walkway shown in photograph 2 on the DPR 523 form is no longer extant.
- b. Assess the additional layer of concrete visible on the top of the benchwalls where the walkway was located prior to removal and determine its age and whether it was an addition to support the non-original wooden or steel walkways that were added later to the structure.
- c. Determine whether these changes to the Old Headquarters Weir affect the integrity of the resource and its eligibility for listing on the California Register of Historical Resources (CRHR). Provide current photographs documenting the existing condition of the weir on the DPR 523 form.

A184. Map Reference Number 11: California Aqueduct.

- a. The location of photograph (dated 7/26/06) provided on the DPR 523 form map on page 2 of 4, appears to be taken in the vicinity of the Delta Mendota Canal in Tracy, CA, nearly 200 miles north of the project. As the photo location is outside the current PAA, provide a current photo of the portion of the aqueduct within the PAA and a map identifying its location. Staff suggests a photo location of the aqueduct near the Old Headquarters Weir.

A185. Map Reference Number 14: Buena Vista Water Storage District (BVWSD).

The DPR 523 form evaluating six individual BVWSD resources was completed in 2009. One of the resources identified in the DPR 523 form is now outside the PAA. The location photographs for the five BVWSD resources listed below no longer document the portions of these resources within the PAA.

- a. Provide updated photographs, location map and evaluation of the resources to reflect the revised PAA. The affected BVWSD resources are listed below, from north to south within the PAA:
 1. East Side Canal;
 2. Unknown drain and well (dating to at least 1954) located between Dunford Road and East Side Canal;
 3. Depot Drain;
 4. Levee and well at southern property boundary of the Adohr/Palm Farm complex;
 5. Outlet Canal.

Background

Extant on the Adohr Farm property (Map Reference 7) are mature tree plantings, including a perimeter row (north, west, and south of the property) of tall palm trees (likely *Washingtonia robusta*), a driveway allée of palm trees of a different type (possibly *Phoenix dactylifera* or similar) and two trees flanking Dairy Road with full canopies that reach the ground. Both the perimeter palms and the allée of palms are characteristic of many California Central Valley farm landscapes, whereby the farm house and property is often marked with a boundary of planted trees and a driveway allée. Central Valley farmsteads also often feature a dense cluster of trees surrounding the primary buildings, which may include the residence, a water tower, and utility buildings.

These developments and the characteristic tree plantings associated with them are often visible from miles away, as is the case with the Adohr Farm property. The perimeter palms form a pronounced silhouette that is discernible from several miles away in the open agricultural landscape. The other two trees on the property noted above, located adjacent to Dairy Road and in the vicinity of the electric line servicing the property, are spaced in such a way that they may have at one time flanked a path or other entryway. There is another tree on the Adohr Farm property which has been heavily pollarded in the past, now appears to be dead or dying, and may be similar to the two trees with the full canopies.

The DPR 523 form for Adohr Farms, Map Reference 7, does not include a discussion of the landscape features of the property and their contribution to the significance and integrity of the site as potential character-defining features. Staff requires this information in order to understand how the property originally appeared and provide a complete analysis of the farmstead's historical significance, integrity and identification of character-defining features of the property as a whole.

Data Requests

A186. Identify and assess the age of the trees and provide an evaluation of their contribution to the Adohr farms property as a whole.

- a. Provide information from a Certified Arborist as to the genus, species, and age of the trees described above.

- b. Provide historical photographs or maps which show the trees, farm layout and buildings from the period of significance, roughly ca. 1930 (approximate date of construction) to the present.
- c. Evaluate the landscape features of the property (i.e. trees and placement) and their contribution to the significance and integrity of the site as potential character-defining features.

Background

The HECA project proposes a new rail line to deliver products to the project site (URS 2012). The Amended AFC and subsequent data responses have not described the method for crossing and/or abutting existing BVWSD resources.

Energy Commission Land Use and Traffic staff made site visits on September 25, 2012. HECA staff described the crossings of the canals, for example, as pre-cast concrete structures that would be installed inside the drainage channel walls, with a flow-through design for the water in the channel. As described, installation of the structures would not impact the sidewalls or levees of the drainage channel.

However, the rail line presumably would cross the top of the sidewalls and levees. In order for Cultural Resources staff to adequately address the potential impacts upon BVWSD resources and related structures and landforms, staff needs a complete description of the method of drainage crossings and a discussion of the impacts to the resources involved.

Data Requests

A187. Provide a description of the method of rail line crossing, including design, accompanied by an engineering drawing in plan and section view, structural requirements and a discussion of potential impacts to the three existing structures listed below that appear to require crossings based upon the rail line route provided in the AFC and subsequent documents.

- a. East Side Canal (Map Reference 14). Provide design of structural crossing in plan and section view, clearly.
- b. Works Progress Administration-era culverts and headwalls on Dairy Road (Map Reference 5). Provide an analysis of the impact of the rail line on these resources, including placement of the rail line in relation to the headwalls and indicating how the span would be accomplished and what structural elements or features of the water system at this location may be impacted.
- c. Main Drain (Map Reference 14). Provide design of structural crossing in plan and section view, clearly indicating how the span would be accomplished and what structural elements or features of the canal may be impacted.

Background

In discussing the architectural characteristics of the buildings in the DPR forms for Map References 7 (Adohr Farms) and 9 (Adohr Farms Headquarters) (URS 2012), a

reference is made to an “Oilfield” style of architecture. The narrative states that, “While the style of the buildings [Map References 7 and 9] is reminiscent of “Oilfield” architecture, a style used in the remote oilfields of Kern County, the construction date and function preclude it from being of this class of architecture. Rather, it is a modified version of this style” (JRP Historical Consulting 2012: Map Reference 7, p. 4, Map Reference 9, p.4).

The applicant has drawn the conclusion that the buildings are not eligible for listing on the CRHR under Criteria 1, 2, 3 or 4. Specifically, the applicant determines that, relative to Criterion 3, these buildings do not possess any distinctive characteristics or high artistic value that would render them eligible under Criterion 3 (JRP Historical Consulting 2009).

In order to develop a complete analysis for the buildings and the farmstead as a whole, staff needs additional information about the architecture style referred to as “Oilfield”. In addition, staff needs to understand the context of the style relative to oilfields and agricultural properties in Kern County and why the “Oilfield” style would be in use on an agricultural property.

Data Requests

A188. Staff requires additional information about the “Oilfield” architectural style and how the architectural details of the buildings identified as Map References 7 and 9 refer to that style.

- a. Provide a discussion of the “Oilfield” style of architecture referred to in the DPR 523 forms for Map References 7 and 9. Define the period of significance for the style, and how the construction date and function of the buildings “preclude it from being of this class of architecture”.
- b. Please provide staff a copy of JRP Historical Consulting (1995), cited in JRP Historical Consulting (2012) as a source for defining Oilfield architecture.
- c. Provide a discussion of the buildings’ design, including but not limited to, the gabled monitor with ventilation slats, the decorative notching in the fascia boards, the shed roofs covering the porches and the distinctive cross-X pattern of the porch railings and how these attributes and features fit into the broader pattern of agricultural housing forms from this period in the Central Valley, and Kern County in particular.

Background

This background and associated data request is intended to clarify information needs connected with Data Request A85. The Western Naval Oil Preserve No. 1, Elk Hills (NPR-1), now Occidental Elk Hills, Incorporated (OEHI), is the location for an Enhanced Oil Recovery (EOR) project. This project, pursuant to CEQA, is part of the proposed project under review.

NPR-1 was the subject of a historical resources evaluation and assessment report (Hamusek-McGann et al. 1997) at the time of the transfer of the property from the Department of Energy to Occidental Petroleum, parent company of OEHI. The report

assessed both historic archeological resources and built environment resources. Several periods of significance were found in the report, including Early Exploration (1910–1918), Initial Development Rush (1918–1930), Depression Years (1930–1941) and the War Years (1941–1946). The report authors identified the Elk Hills Rural Historic Industrial Landscape as a historic property eligible for the National Register of Historic Places (NRHP) under Criterion A.

The State Historic Preservation Officer (SHPO) took issue with this conclusion, calling into question the landscape's integrity. The SHPO wrote: "For no period of significance does the property today exhibit enough integrity in all applicable categories to readily convey its historic appearance..." (Widell 1997:1). Apparently, the report lacked identification of the landscape's character-defining features, which would have bolstered the authors' contention that it is NRHP-eligible.

Military Sites:

Staff visited the NPR-1/EOR site on September 19, 2012. Many of the early period (1910 to 1941) built environment features appear to be missing, damaged or altered.

However, there are two areas that appear to have integrity and warrant survey and evaluation. Hamusek-McGann et al. (1997) provides some documentation of Navy activity during the War Years and the activities of the Sea Bees (Construction Battalions or CBs) in particular.

According to Hamusek-McGann et al. (1997), the Sea Bees constructed roads, drill pads, wells and military trenches, bunkers and other defensive earthworks on the north and west flanks of the landscape. Of these activities, the trenches, bunkers and other earthworks appear to be intact.

These earthworks seem to be located primarily in the low oil-production areas of Elk Hills and this may contribute to their high degree of integrity. Hamusek-McGann et al. (1997) found that the relationship of the trenches to the topography offers an insight into the military's approach to defensive positions on the ground during this period.

The report states that physical evidence of defensive infrastructure during WWII are rapidly disappearing, increasing the value of NPR-1 military sites and may be eligible as historic properties under Criterion A (NRHP).

Check Dams:

During staff's site visit, OEHI staff pointed out a series of check dams constructed on the property meant to control the flow of water off the site to the valley. These check dams appear to have a design that incorporates a metal pipe that siphons the water through an earthen dam, at a point below the water level of the dam, allowing water to pass through the pipe and leaving any oily residue to collect at the bottom of the basin.

This in effect reduces the potential for oil to flow beyond the property boundary during a rain event or a spill. These check dams are prevalent throughout the site and it is not known when these dams were constructed or by whom. Hamusek-McGann et al. (1997) report that WPA crews were on site during the Depression years constructing culverts, laying pipeline, repairing equipment and constructing roads.

The check dams are not discussed in the report and their origin is not known by staff. They are a landscape element specifically relating to this site's topography and function and require evaluation to determine their contribution to the overall landscape, their association with one of the historic periods noted above and if they qualify as historic resources under CEQA or the NRHP.

Data Requests

Supplemental information for NPR-1 is required to complete the evaluation of the resources discussed above. This may be submitted as part of the data response to Data Request Number A85.

A189. Provide documentation of the existing military sites (trenches, bunkers and defensive earthworks) found on the north and west flanks of the NPR-1 site. Documentation shall include survey and inventory, evaluation of significance and integrity for both the CRHR and NRHP. Prepare a context statement and record the findings on the appropriate DPR 523 forms.

A190. Provide documentation of the existing check dams found throughout the drainage draws, gullies and washes on the NPR-1 site. Documentation shall include survey and inventory, evaluation of significance and integrity for both the CRHR and NRHP. Prepare a context statement and record the findings on the appropriate DPR 523 forms.

Background

The PAA as defined in the AFC (URS 2012: Map 2, Sheet 4), includes 0.5 mile on either side of the linear corridor north of Station Road and east of the project site. Several resources have been identified and evaluated within that portion of the PAA (Map Reference Numbers 12, 13 and 15).

On Station Road there is another resource, the Mesquite Hunting Club, which has not been addressed in the AFC and falls within the PAA.

Staff has identified the resource as historic in age. The Mesquite Hunting Club is clearly shown and labeled on a 1933 edition of the U.S. Geological Survey map, surveyed in 1927 and 1929 (U.S. Geological Survey 1933). This resource must be inventoried and evaluated as a potential historical resource in order to assess the proposed project's potential impacts.

Data Request

A191. Provide documentation of the Mesquite Hunting Club. Documentation shall include survey and inventory, evaluation of significance and integrity for both the CRHR and NRHP. Prepare a context statement and record the findings on the appropriate DPR 523 form(s). Note that the boundary of the Mesquite Hunting Club changed over time and include analysis of those changes in the evaluation.

Background

The proposed process water pipeline would extend through or adjacent to the following archaeological resources and therefore would potentially damage the archaeological resources listed below. The applicant is currently addressing a related data request

(A147), which asks the applicant to determine the depth of fill material in which the proposed process water line would be installed (California Energy Commission 2012:13–14).

Staff has requested that the applicant focus on those portions of the proposed process water line that would intersect the archaeological resources listed below and to provide substantiation for its estimate of the depth of fill.

- KRM-IF-006 and P-15-89 (CA-KER-89/H)
- P-15-171 (CA-KER-171)
- P-15-7176 and P-15-6725 (CA-KER-5356/H)
- HECA-2008-1 (JM-BVWD-1)
- HECA-2009-9
- HECA-2009-10
- BS-BVWD-1
- P-15-2485 (CA-KER-2485) and BS-IF-003
- P-15-179 (CA-KER-179), KRM-IF-003, and KRM-IF-004

Similarly, the proposed natural gas pipeline is situated adjacent to archaeological site P-15-3108 (CA-KER-3108) and HECA-2009-2 is located in the Controlled Area and near the proposed CO₂ pipeline. HECA-2009-2 would be subject to ground disturbance associated with agricultural activities in the Controlled Area.

Unless the applicant demonstrates that the proposed project would not affect the aforementioned archaeological resources, such resources must be evaluated for significance under CEQA's criteria as well as those of the NRHP.

The applicant can demonstrate that one or more of the aforementioned archaeological resources would not be affected by the proposed project by showing that, for instance, a given archaeological resource is situated outside the PAA and that its surface and subsurface extent are firmly established or that ground disturbance would only take place within fill sediments overlying a given archaeological resource.

Staff is requesting the applicant conduct a significance evaluation of affected archaeological resources so that staff has the ability to assess impacts on resources considered significant under CEQA and eligible for the NRHP.

Data Requests

A192. Please submit, for staff review and approval, a subsurface testing plan for any of the aforementioned archaeological resources that the proposed project would not avoid. The subsurface testing plan should be prepared by an archaeologist who meets the U.S. Secretary of the Interior's Professional Qualifications Standards, as published in 36 Code of Federal Regulations 61. Please provide a résumé demonstrating the archaeologist's qualifications. Testing methods should be scaled to the size and quality of evidence for the resources' presence in the PAA. For archaeological resources with scant archaeological materials in the PAA, methods consistent with determining presence/absence would be appropriate.

- A193. After staff approves the subsurface testing plan, please initiate the test excavations, as specified in the approved plan. A qualified archaeologist, as identified in Data Request A192 above, shall carry out the test excavations. (Note: Please ensure that a biological monitor is present during the test excavations). If deposits are found, please recover a sample of materials sufficient to support recommendations of significance for these sites. Evaluate the recovered data for its potential to address the research questions posed in the testing plan.
- A194. Please provide a report, written by the qualified archaeologist conducting the excavations, on the testing and findings at these resources. The report should present an analysis of the recovered data, recommendations regarding the significance of the sites, and justifications for the recommendations, based on the recovered data. Please complete or update and file DPR 523 "Archaeological Site" detail forms for these sites, including dating and significance recommendations, and submit copies to staff.

Background

Energy Commission staff has reviewed the applicant's October 2012, response to Data Requests (DR) A151 and A152 for the Hydrogen Energy California application for certification (AFC). DRs A151 and A152 asked that the applicant prepare and implement a primary geoarchaeological field study research plan for the project plant site and linear facility corridors.

While evaluating the previous HECA AFC (08-AFC-8), a request for a primary geoarchaeological field study was the subject of six data requests: DR 78 and 79 (October 12, 2009), DR 143 (January 13, 2010), Workshop DR 23 (April 12, 2010), and DR 172 and 173 (October 26, 2010). In the April 2010 workshop, the applicant agreed to the following:

- For the Project Site: "Once a development plan has been finalized for the Project Site, an exploration plan for the combined geotechnical/geoarchaeological investigations will be developed, focusing on those areas with the deepest project impacts."
- For Project linears: "Once engineering and design (including the proposed depths of the linear components under consideration) have been finalized, an exploration plan for the geoarchaeological investigation will be developed..."

Staff believes that the current project description and data responses provide an adequate amount of project definition to conduct a geoarchaeological study, though the proposed project has not reached final design. Staff believes that the applicant and staff would be able to devise reasonable means to obtain the data needed for staff's impact analysis by holding a meeting among staff, the applicant, and the applicant's archaeological consultants.

Data Request

A195. Staff requests that the applicant and its archaeological consultant, including the project geoarchaeologist, meet with staff to discuss the data needed to complete the staff impact analysis with respect to buried archaeological resources.

Background

The Amended AFC indicates that the proposed 230-kilovolt (kV) electrical transmission line would connect to existing Pacific Gas and Electric Company (PG&E) transmission lines via a new (not yet built) electrical switching station. Staff understands that PG&E would build and operate the switching station. The Energy Commission considers the electrical switching station to be a related facility, as defined at Title 20, California Code of Regulations, Section 1702(n), to the proposed HECA project. The proposed electrical switching station must, therefore, be included in the HECA project area of analysis. The site of the proposed electrical switching station is included in the applicant's records search area, but has not been surveyed for the presence of cultural resources (Farmer 2008; Hale and Laurie 2009, 2010; Hale et al. 2012; JRP Historical Consulting 2009, 2012).

Data Requests

A196. Conduct a pedestrian survey of the proposed electrical switching station, plus a 200-foot buffer surrounding the proposed facility's location (20 Cal. Code Regs., §§ 2001–2012, Appendix B[g][2][C]).

A197. Prepare and submit an addendum to Appendix G-3 (Hale et al. 2012) that describes:

- a. The methods used to identify cultural resources in the proposed switching station site.
- b. The results of the pedestrian survey.
- c. Descriptions of newly recorded cultural resources in the proposed switching station location.
- d. An assessment of impacts to cultural resources in the proposed switching station.
- e. Proposed mitigation measures for identified impacts.

References Cited

California Energy Commission 2012—California Energy Commission. *Hydrogen Energy California (08-AFC-8A): Energy Commission Staff's Data Requests A124–A180*. September 6. Sacramento, CA. Docket No. 08-AFC-8A, TN# 67037. Electronic document, http://www.energy.ca.gov/sitingcases/hydrogen_energy/documents/2012-09-06_CEC_Staffs_Data_Requests_A124-A180_TN-67037.pdf, accessed October 15, 2012.

Farmer 2008—Reid Farmer. *Confidential Hydrogen Energy California Cultural Resources Technical Report*. July. URS Corporation, Denver, CO. Prepared for Hydrogen Energy International, Long Beach, CA. Submitted to California Energy Commission, Sacramento, CA. Docket No. 08-AFC-8.

- Hale and Laurie 2009—Hale, Mark R., and Leroy T. Laurie. *Confidential Archaeological Reconnaissance, Hydrogen Energy California Study Area, Kern County, California*. May. URS Corporation. Confidential Appendix H3 to *Application for Certification, Volume I, Hydrogen Energy California*, by Hydrogen Energy International, with URS. July. Hydrogen Energy International, Long Beach, CA, with URS, Denver, CO. Submitted to California Energy Commission, Sacramento, CA. Prepared for Hydrogen Energy International LLC, Long Beach, CA. Submitted to California Energy Commission, Sacramento, CA. Docket No. 08-AFC-8.
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- JRP Historical Consulting 1995—JRP Historical Consulting. *Historic Architecture Survey Report, Tier 1, For Route Adoption on Route 58 between I-5 and State Route 99 in Kern County*. June 9.
- JRP Historical Consulting 2009—JRP Historical Consulting. *Historic Architecture Technical Report: Inventory and Evaluation, Hydrogen Energy California Project*, April 2009, Davis, CA. Prepared for URS Corporation. Appendix H-4 in *Application for Certification for Hydrogen Energy California (08-AFC-8), Kern County, California*, by URS. May. Prepared for Hydrogen Energy California LLC. Submitted to California Energy Commission, Sacramento, CA (Docket No. 08-AFC-8A), and National Energy Technology Laboratory, U.S. Department of Energy, Morgantown, WV.
- JRP Historical Consulting 2012—JRP Historical Consulting. *Historic Architecture Technical Report: Inventory and Evaluation, Hydrogen Energy California Project*. April. Davis, CA. Prepared for URS Corporation. Confidential Appendix G-4 in *Amended Application for Certification for Hydrogen Energy California (08-AFC-8), Kern County, California*, by URS. May. Prepared for Hydrogen Energy California LLC. Submitted to California Energy Commission, Sacramento, CA (Docket No. 08-AFC-8A), and National Energy Technology Laboratory, U.S. Department of Energy, Morgantown, WV.

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Technical Area: Noise
Authors: Edward Brady
Shahab Khoshmashrab

Background

Amended AFC Tables 5.10-4 and 5.10-5 provide the number of delivery trips to the project site for feedstock, operations and maintenance, and process materials and byproducts. In order for staff to adequately evaluate the noise impacts of the deliveries utilizing truck and/or railway, additional information and analysis need to be provided on the impacts of increased traffic along existing surface routes and the preferred routing of the railroad track serving the HECA project.

Data Requests

A198. Please identify the proposed routing for the truck delivery. Identify the noise-sensitive receptors along the path of travel. Analyze the noise impact of the truck traffic at these receptors during both, day and night. In this analysis, please include a comparison of the existing ambient noise levels to the noise levels resulting from the deliveries, at representative locations. Please provide the resultant noise levels in terms of L_{eq} , L_{10} , L_{50} , L_{min} , L_{max} , and L_{90} .

A199. Please identify the proposed routing for the rail delivery. Identify the noise-sensitive receptors along the path of travel. Analyze the noise impact of the rail traffic at these receptors during both day and night. In this analysis, please include a comparison of the existing ambient noise levels to the noise levels resulting from the deliveries, at representative locations. Please provide the resultant noise levels in terms of L_{eq} , L_{10} , L_{50} , L_{min} , L_{max} , and L_{90} .

Technical Area: Alternatives
Authors: Negar Vahidi
Scott Debauche

Background

Subsection 6.3 of the Amended Application for Certification (AFC) discusses alternative site and linear facilities locations that were part of the screening analysis for the proposed project. The four Alternative sites considered within the Amended AFC include the following (as shown in AFC Figure 6-1):

- Alternative Site 1 – located approximately 1-mile west of the proposed site;
- Alternative Site 2 – located approximately 0.4-mile west of the proposed site;
- Alternative Site 3 – located approximately 4-miles north/northwest of the proposed site; and
- Alternative Site 4 – located approximately 13-miles southeast of the proposed site.

The evaluation screening criteria utilized within the Amended AFC for evaluating each site included:

- Environmental impacts;
- Safety (proximity to residents, schools, day-care centers, etc.);
- Proximity to sensitive receptors (population and sensitive species);
- Environmental justice considerations;
- Economic feasibility;
- Site acreage (300+ acres), topography, lowest elevation (to maximize power generation);
- Proximity to the CO₂ customer for CO₂ enhanced oil recovery (EOR) and sequestration;
- Minimization of impacts on transportation corridors;
- Feasibility of land acquisition;
- Proximity to infrastructure to minimize impacts from site access and linear facilities; and
- Proximity to raw water supply.

Within the Amended AFC, the elimination of Alternative Sites 1 through 4 is limited to the following reasoning and analysis: “(1) topography, (2) distance from the proposed CO₂ custody transfer point, (3) lengths of linear facilities, (4) sensitive environmental receptors, and/or (5) land availability.”

Additional information is needed for Energy Commission staff to adequately consider and analyze these four alternative sites. The purpose of staff’s alternatives analysis is to evaluate a reasonable range of feasible alternatives that could substantially reduce or avoid any potentially significant adverse impacts of the proposed project while obtaining basic project objectives, yet to be defined by the Energy Commission, pursuant to the California Environmental Quality Act (CEQA) (Cal. Code Regs., tit. 14, §15126.6; Cal. Code Regs., tit. 20, §1765).

When determining feasible alternatives, staff includes alternative locations or sites, to determine whether such alternatives would avoid project impacts identified as significantly adverse. Given the complex nature of the siting constraints associated with this project, staff believes that further detailed evaluation of sites already reviewed by the applicant as potentially feasible is warranted.

Data Requests

A200. For Alternative Sites 1 through 4, please provide the following:

1. Topography
 - a. Information on slope and potential available acreage for each site. Include a map showing the project footprint. Describe the topography and

- elevations within each site and the required linears. Compare these features to those of the proposed project site, explaining the differences.
- b. Details explaining how topography influenced the site selection criteria. Provide feasibility and benefit analysis of how the topography of these alternative sites differed from that of the proposed project site.
2. Distance from the proposed CO₂ custody transfer point.
 - a. Details and a map explaining where the CO₂ custody transfer point is located.
 - b. Details and a map displaying the CO₂ pipeline routes evaluated for each site alternative. Provide a matrix displaying the lengths of each pipeline in comparison to the length of the proposed project CO₂ pipeline.
 - c. Provide a matrix on the number and type of landowners traversed by the CO₂ pipeline for each site alternative in comparison to those of the proposed project CO₂ pipeline.
 - d. Information on any engineering infeasibility of the CO₂ pipeline route for each site alternative.
 3. Lengths of linear facilities
 - a. Details and a map displaying all proposed alternative linear infrastructure routes (including, but not limited to: water, wastewater, natural gas, rail spur(s) and electrical gen-tie) evaluated for each site alternative. Provide a matrix displaying the lengths of each site alternative infrastructure linears in comparison to those of the proposed project.
 - b. Provide a matrix on the number and type of infrastructure linears that traverse across property owners land for each site alternative in comparison to those of the proposed project.
 4. Sensitive environmental receptors
 - a. Details and a map displaying the geographic extent utilized to define sensitive environmental receptors (including, but not limited to: residences, schools, hospitals, recreational areas, sensitive species) for each site alternative.
 - b. Provide a matrix on the number and type of sensitive receptors considered for each site alternative in comparison to those of the proposed project.
 5. Land availability
 - a. Discuss land ownership for each site alternative and linear right-of-ways and identify the acreage by owner type. Provide information on public versus private lands controlling each site and linear ROWs. Describe all federal, State, and local applicable land use plans for these lands.

- b. Description of existing land uses of each site and in the surrounding area. Include acreage figures for areas in agricultural use.
- c. Description of how the economic viability of acquiring each site alternative compares to that of the proposed project site.

Background

On July 26, 2012, the United States Environmental Protection Agency (EPA) provided scoping comments on the amended Notice of Intent (NOI) modifying the scope of the Environmental Impact Statement (EIS) for the proposed project. EPA has regulatory authority regarding the CO₂ sequestration component, as well as any other fluid injection activities, of the proposed project. Within the EPA scoping comments, alternatives issues were identified requiring analysis in the EIS.

As noted in the EPA scoping comment letter, the Department of Energy (DOE) utilizes a financing selection process separate from NEPA that includes an “environmental critique” for the proposals deemed suitable for selection of funding. DOE selected the proposed project for a funding award, and only considers alternatives considered within the Amended AFC.

Based on EPA scoping comments, additional information is needed to evaluate the following alternatives within the Amended AFC. The alternatives mentioned by EPA seek to evaluate a reduction in project size and/or different technologies for particular component processes of the project. Consistent with CEQA Section 15126.6, the Preliminary Staff Assessment will evaluate a range of potential alternatives to the proposed project. Energy Commission staff is requesting the information below to determine alternatives that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. These types of alternatives potentially could result in an incremental reduction in emissions vehicle trips, site footprint, and water consumption. Therefore, Energy Commission staff is requesting the information below to ensure that EPA comments are addressed and these alternatives adequately analyzed per CEQA in the Staff Assessment.

Data Requests

- A201. Provide a description of what proposed project activities would occur should DOE funding not be obtained. Describe the differences between the proposed project as funded by DOE and that without receiving funding. Discuss any activities that would occur, and the feasibility of those actions, should DOE funding not be obtained.
- A202. Provide a project description, feasibility analysis, and environmental analysis discussing a reduced size project alternative (minimum of 25 percent reduction in project footprint). Provide figures and a matrix showing the configuration of this reduced project alternative and any change in megawatt (MW) output, CO₂ sequestration, fertilizer production and vehicle trips, coal and petcoke usage, and all other considerations when compared to the proposed project.

- A203. Provide a project description, feasibility analysis, and environmental analysis discussing a dry cooling or wet-dry hybrid cooling alternative. As noted within the EPA scoping letter, these technologies would reduce water use and be more sustainable in the long-term. Please provide a focused analysis of water use/reduction in comparison to that of the proposed project.
- A204. Provide a project description, feasibility analysis, and environmental analysis discussing a dry scrubbing alternative. As noted within the EPA scoping comment letter, this technology would reduce water use and be more sustainable in the long-term. Please provide a focused analysis of water use/reduction in comparison to that of the proposed project.

Background

Section 6.0 of the Amended AFC discusses alternatives evaluated as part of the screening analysis for the proposed project. Additional information is needed documenting the applicant's reasoning for not evaluating additional alternatives beyond those presented within Section 6.0 of the Amended AFC.

Consistent with CEQA Section 15126.6, the Preliminary Staff Assessment will evaluate a range of potential alternatives to the proposed project. Energy Commission staff is requesting the information below to determine alternatives that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The alternatives potentially would reduce the project size or the size of project-related components, which may lead to reduced project air emissions, vehicle trips, rail traffic, water use, traffic hazards, public health and safety concerns, and avoidance of carbon sequestration.

The following information is necessary for Energy Commission staff to adequately consider a broad range of site and technology alternatives for the Preliminary Staff Assessment or adequately determine the factors that may be used to eliminate alternatives from detailed consideration in the Preliminary Staff Assessment, per CEQA requirements.

Data Requests

- A205. Provide a project description, feasibility analysis, and environmental analysis discussing locating the proposed project on a site within the Elk Hills Oil Field. This analysis should adequately identify all linear facilities and compare this alternative site against the site evaluation criteria identified within Amended AFC Subsection 6.3. For an Elk Hills Oil Field Site Alternative, the feasibility analysis should consider, but not be limited to, the following:
- a. Topography. Discuss topography issues against the necessary acreage of land required. Include a map showing a possible project site and footprint. Describe the topography and elevations within the site and the required linear facilities. Compare these features against those of the proposed project site, explaining the differences or any engineering infeasibility.
 - b. Linear facilities. Details and a map displaying all linear infrastructure routes (including the CO₂ pipeline route to custody transfer point). Provide a matrix displaying the lengths of each linear in comparison to those of the

proposed project. Compare estimated linear cost to those of the proposed project.

- c. Land Availability. Discuss land ownership issues against the necessary acreage of land required. Describe any land use siting conflicts and the economic viability of siting the proposed project within the oil field in comparison to the proposed project.

A206. Provide a project description, feasibility analysis, and environmental analysis discussing a Coal Provider and Storage Alternative. Information provided should include, but not be limited to:

- a. Available alternative coal supply and storage options,
- b. Available alternative coal supply and storage location(s),
- c. What means of transport would be available to supply the proposed project with an alternative coal source(s); and
- d. How the economic viability of purchasing coal from an alternative source compares to that of the proposed project.

A207. Provide a project description, feasibility analysis, and environmental analysis discussing a No Fertilizer Manufacturing Complex Alternative. Provide information on what activities would occur without the fertilizer manufacturing complex, and the ways in which the economic viability of this alternative compares to that of the proposed project.

A208. Provide a project description, feasibility analysis, and environmental analysis discussing a Coal/Petcoke Mix Alternative with an increased Petcoke percentage. Provide information on what activities would occur by altering the proposed fuel mixture, and of the ways in which the economic viability of this alternative compares to that of the proposed project.

A209. Provide a project description, feasibility analysis, and environmental analysis discussing a Natural Gas Combined Cycle Alternative. Provide information on what activities would occur by altering the proposed technology, and the ways in which the economic viability of this alternative compares to that of the proposed project.

Technical Area: Land Use and Agricultural
Author: Jonathan Fong

Background

Land Use and Agriculture Tables:

All page numbers, figures, and tables cited in this document refer to the 2012 HECA Amended Application for Certification (08-AFC-8A) (AFC), unless otherwise stated.

Section 4, "Electrical Transmission," Subsection 4.1 "Project Description" states "[t]he project intends to connect to the Pacific Gas and Electric Company (PG&E) Midway Substation via 230- kilovolt (kV) Midway-Wheeler Ridge transmission line and a new PG&E switching station." Figure 2-12 "Overall Single-Line Diagram" in the Amended AFC references the proposed 230 kV Switching Station (at Olean Avenue and Elk Valley Road) but provides no map or other description of the location. Staff verified that the new PG&E switching station would be the first point of interconnect to the electrical grid, which would make it part of the HECA project and subject to Energy Commission staff review for CEQA and laws, ordinances, regulations and standards (LORS) compliance.

Data Requests

A210. Please provide a map to scale and written description of the location of the proposed PG&E switching station and also provide the Assessor's Parcel Number.

A211. Please amend Table 2-1 "Disturbed Acreage" to include the PG&E switching station as a project component and include the size, temporary disturbance and permanent disturbance figures.

A212. Provide the following information of the switching station and within a ¼-mile vicinity of the station:

- Existing General Plan Land Use Designation and Zone District.
- Indicate whether the proposed switching station is a permitted or conditional use.
- Identify Farmland Areas on-site and within ¼ mile of the site as designated on the Department of Conservation Important Farmland Mapping and Monitoring Program Maps and lands under Williamson Act Contract.
- Identify the crop types in production.

Technical Area:
Author:

Visual Resources
Elliott Lum

Background

According to the Amended Application for Certification (AFC) for the HECA project, the descriptions for Key Observation Points (KOPs) 1 and 2 (Visual Resources 5.11-10 to -11), mentions that the former Port Organics fertilizer production plant (Plant) would be visible from the KOPs 1 and 2.

Furthermore, the Simulated Conditions photographs for KOPs 2, 3, 4 and 6 (Visual Resources Figures 5.11-18, -20, -22 and -26, respectively) show that the fertilizer production plant would co-exist with the proposed HECA project after its completion.

However, on a recent site visit (September 25, 2012), Energy Commission staff was informed by Ed Western (the Kern County HECA representative) that the Plant would be removed at some point during the HECA project.

Data Requests

A 213. Please confirm whether the Plant (and all related structures, palm trees surrounding the Plant, etc) would be removed.

A 214. If the Plant has been confirmed for removal, please provide the following information:

- The time period over which its removal would take place (i.e., prior to/during construction or during the lifespan of the completed HECA project).
- Electronic and paper copies of 11-inch by 17-inch color photographic simulations at KOPs 1, 2, 3, 4, and 6 that do not include the Plant as part of the Simulated Condition pictures.

Technical Area:

Waste Management

Author:

Ellen Townsend-Hough, REA

Background

As a follow-up to Data Request A122 staff has contacted the California Department of Transportation (Caltrans) to look at potential mitigation for the 246,016 cubic yards of gasifier solids. Staff has contacted the Cement Sub-Group of the California Climate Action Team (CAT) regarding Supplementary Cementitious Materials (SCMs). The SCMs can reduce greenhouse gas (GHG) emissions. Common SCMs in use include [slag](#), [fly ash](#), [silica fume](#), and [calcined clay](#). Using two or more SCMs together with Portland cement is referred to as a ternary cement mix. Proper use of ternary mixes comprised of fly ash and slag can produce better quality concrete. Many of these mixes are being used for construction of the Bay Bridge project, but the fly ash and slag are being imported because of lack of domestic sources.

Caltrans encourages the use of SCMs in Portland Cement Concrete (PCC). The Caltrans Standard Specification is crafted to require the use of SCMs such as Fly Ash, Ground Granulated Blast Furnace Slag (GGBFS), Silica Fume, and Rice Hull Ash in most concrete used by Caltrans. Through appropriate use of these industrial by-products, Caltrans is realizing enhanced concrete performance while also reducing the carbon footprint of the PCC used in the improvement of California's transportation systems. Working with Caltrans may consequently reduce the amount of waste generated from the HECA project, by turning the waste into a viable product for future use.

Suppliers of SCMs are encouraged to submit their products for pre-qualification by Caltrans. Prequalification Program Requirements for SCMs can found at:

http://www.dot.ca.gov/hq/esc/approved_products_list/

Technical requirements for SCMs in the Standard Specification can be found at: <http://www.dot.ca.gov/hq/esc/oe/standards.php>

Data Requests

A215. Considering that there are specific technical requirements for SCMs, is there flexibility in the gasifier technology that can be made to insure the SCMs meet Caltrans specifications?

A216. Considering that there are specific technical requirements for SCMs, is there flexibility in the fuel supplies and feed ratios that insure the SCMs can be made to meet Caltrans specifications?

A217. How would the project owner pursue ash and waste steam marketing opportunities, like Caltrans SCMs, to reduce disposal to local landfills?



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
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**AMENDED APPLICATION FOR CERTIFICATION FOR THE
HYDROGEN ENERGY CALIFORNIA PROJECT**

Docket No. 08-AFC-08A
(Revised 10/8/12)

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DECLARATION OF SERVICE

I, Diane L. Scott, declare that on November 2, 2012, I served and filed a copy of the attached **HYDROGEN ENERGY CALIFORNIA PROJECT (08-AFC-8A), Staff's Data Requests Set # 3, A181 through A217**, dated November 2, 2012. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at: http://www.energy.ca.gov/sitingcases/hydrogen_energy/index.html

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit or Chief Counsel, as appropriate, in the following manner:

(Check all that Apply)

For service to all other parties:

- Served electronically to all e-mail addresses on the Proof of Service list;
- Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses marked **"hard copy required"** or where no e-mail address is provided.

AND

For filing with the Docket Unit at the Energy Commission:

- by sending one electronic copy to the e-mail address below (preferred method); **OR**
- by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT
Attn: Docket No. 08-AFC-08A
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.ca.gov

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

- Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

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I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.



Diane L. Scott
Siting, Transmission and Environmental Protection Division