

September 9, 2010

DOCKET

Staff's Comments to the Applicant's Recommended Changes to the Almond 2 09-AFC-2 Power Plant Project (09-AFC-2) Revised Staff Assessment

DATE SEP 09 2010

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CULTURAL RESOURCES

CUL-1 Prior to the start of ground disturbance (includes "preconstruction site mobilization," "construction ground disturbance," and "construction grading, boring, and trenching," as defined in the General Conditions for this project) for the reinforced segment of the natural gas pipeline on the west side of the San Joaquin River (hereinafter referred to as the "Reinforcement Segment"), the project owner shall obtain the services of a Project Geoarchaeologist (PG).

The resume for the PG shall include information demonstrating to the satisfaction of the CPM that the PG's training and background conform to the U.S. Secretary of Interior's Professional Qualifications Standards for prehistoric archaeology, as published in Title 36, Code of Federal Regulations, part 61, and showing the completion of graduate-level coursework in geoarchaeology or Quaternary science.

The resume of the PG shall include the names and telephone numbers of contacts familiar with the work of the PG, as a professional geoarchaeologist, on referenced projects and demonstrate to the satisfaction of the CPM that the PG has the appropriate training and experience to undertake the required geoarchaeological study.

No ground disturbance related to the Reinforcement Segment shall occur prior to CPM approval of the PG, unless specifically approved by the CPM.

Verification: 1. At least 135 days prior to the start of ground disturbance related to the Reinforcement Segment, the project owner shall provide the resume of the PG to the CPM, for review and approval.

CUL-2 The PG shall conduct geoarchaeological pre-construction fieldwork research on the Reinforcement Segment construction right-of-way (ROW) and the San Joaquin River fluvial system landforms (floodplain, alluvial terraces, and various overbank deposits) in the immediate vicinity, using available geoarchaeological technical literature, remote imagery, site records, and observations from a field reconnaissance of the area. Review of the cultural resources data compiled during the AFC review process shall precede the field reconnaissance.

1. The results of the geoarchaeological pre-construction excavation geoarchaeological research and field reconnaissance shall be submitted to the CPM in a Geoarchaeological Pre-Excavation Research Report report that shall also include:

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- A large scale ($\geq 1:12,000$) map portraying the Reinforcement Segment pipeline trench and surrounding landforms,
- Descriptions of identified landforms in and immediately around the construction ROW of the Reinforcement Segment,
- The geomorphic history of the study area,
- The hypothesized distribution of potentially sensitive subsurface conditions,
- The age, to the extent feasible, of the landforms on which the Reinforcement Segment would be located,
- The postulated distribution of Modesto Formation (Pleistocene and possible early Holocene) landforms versus post-Modesto Formation (postglacial or Holocene) landforms,
- Recommendations for the optimal location of pre-construction geoarchaeological excavations of a portion of the Reinforcement Segment pipeline trench (CUL-3) and
- A research design for these excavations, to follow the guidance below.

The report filed by the Project Owner on June 7, 2010 titled, Surficial Geology of the PG&E Gas Pipeline in the Vicinity of the San Joaquin River, satisfies these requirements, and As part of the Geoarchaeological Pre-Excavation Research Report, the Project owner shall also prepare a research design for the preconstruction se excavations, which to follows the guidance below:

The research design shall include, but is not limited to the following elements:

- Geoarchaeological preconstruction excavations shall be located along the pipeline centerline to avoid additional impacts to buried cultural resources beyond that which would occur during construction along the Reinforcement Pipeline Segment ROW.
- Unless otherwise specified in the approved Geoarchaeological Pre-Excavation Research Report, report, the excavations shall consist of backhoe trenches.
- The total depth of excavations shall be to the water table, or to the anticipated depth of the proposed pipeline installation, whichever is encountered first. The number of backhoe trenches appropriate to this study shall in no case exceed 4 trenches. Excavation methods shall include:
 - a. the recordation of one measured profile from each backhoe trench to include reasonably detailed written descriptions of each

lithostratigraphic and pedostratigraphic unit, a measured profile drawing, and a profile photograph with a metric scale and north arrow;

- b. b. the screening through ¼-inch hardware cloth of a small (three 5-gallon buckets) sample of sediment from the major lithostratigraphic units in each profile or from two arbitrary levels in each profile;
 - c. c. collection of radiocarbon or TL (thermoluminescence) samples to date and/or correlate stratigraphic units and time horizons, with processing of these samples at the discretion of the PG, in consultation with the CPM; and
 - d. d. implementation of a protocol to immediately inform the project owner of any buried prehistoric archaeological deposits encountered during geoarchaeological data collection and to facilitate informing the CPM.
2. At the conclusion of ~~the excavations~~ field work and initial data review, a meeting with the CPM, the PG, and the project owner shall be held to review the results of pre-~~construction~~ excavations. Decisions on whether or not to radiocarbon date or otherwise date some or all of the samples shall be made at this meeting.
3. The PG shall provide a Geoarchaeological Excavation Results Report ~~report~~ to the project owner and the CPM that describes the results of the geoarchaeological pre-construction excavations and the subsurface geomorphology along the Reinforcement Segment Pipeline Section ~~ROW~~. This report shall include:
- a. presents, in graphic and written form, a master column that characterizes the stratigraphy of the subject portion of the Reinforcement ~~Pipeline~~ Segment ROW, including a geologic interpretation of the approximate age of the stratigraphic subdivisions reflecting shifts in depositional history and time ranges that correspond to the prehistory and history of the region;
 - b. the results of the study placed in the context of what is known of the area's Quaternary geomorphology and environmental history;
 - c. descriptions of any encountered archaeological deposits, including an assessment of the lateral and vertical extents of each such deposit, descriptions of the material culture content and the character of the sedimentary matrix for each deposit, and an assessment of the approximate age of each deposit;
 - d. a preliminary interpretation of the character of the prehistoric or historic land use that each encountered archaeological deposit represents;
 - e. an interpretation, with reference to the information gathered and developed above, of the likelihood that buried archaeological deposits are present, and, on the basis of the current understanding of the prehistory

and history of the geoarchaeological study area region, what site types are most likely to be found;

- f. recommendations, on the basis of the conclusions in “e” where and to what depth archaeological monitoring should be done during construction ~~in all project construction areas~~ of the Reinforcement Segment;
- g. an assessment of the potential necessity and the approximate cost of mitigating project impacts to any CRHR-eligible buried archaeological deposits found during the geoarchaeological study, and recommended options for project re-design to avoid any potential CRHR-eligible deposits found;
- h. appendices to the report to include completed DPR 523 forms for any archaeological deposits encountered and recorded.

No ground disturbance related to the Reinforcement Segment shall occur prior to CPM approval of the Geoarchaeological Pre-Excavation Research Report ~~research design~~, unless specifically approved by the CPM.

Verification: 1. At least 120 days prior to the start of ground disturbance related to the Reinforcement Segment, the project owner shall provide the AFC, data responses, all confidential cultural resources documents, maps and drawings, and the Staff Assessment to the PG.

2. At least 90 days prior to the start of ground disturbance related to the Reinforcement Segment, the project owner shall submit the Geoarchaeological Pre-Excavation Research ~~geoarchaeological letter r~~ Report and ~~research design~~ to the CPM for review and approval.

~~3. At least 45 days after the completion of the excavations, the project owner shall submit to the Geoarchaeological Excavation Results Report to the CPM for review and approval.~~

CUL-3 Geoarchaeological preconstruction excavations along the Reinforcement ~~Pipeline~~ Segment ROW shall occur under the direction of the PG. The PG may elect to obtain specialized technical services beyond the requisite radiometric dating to assist in data-gathering and data-interpreting activities.

The project owner shall ensure that the PG conducts the geoarchaeological ~~excavations~~ field study according to the CPM-approved Geoarchaeological Pre-Excavation Research Report ~~research design~~ and completes and submits the Geoarchaeological Excavation Results Report. ~~geoarchaeological field study report~~. No ground disturbance related to the Reinforcement Segment shall occur prior to CPM approval of the ~~geoarchaeological~~ Geoarchaeological Excavation Results Report. ~~field study report~~.

The project owner shall review the ~~geoarchaeological~~ Geoarchaeological Excavation Results Report ~~field study report~~ and evidence consideration of any project design changes recommended by the PG.

Verification: 1. At least 90 days prior to the start of ground disturbance related to the Reinforcement Segment, the project owner shall ensure that the PG initiates the approved geoarchaeological study and shall notify the CPM by letter or in an e-mail that the PG has initiated the CPM-approved Geoarchaeological Excavation Research Report geoarchaeological study.

2. No later than 3 weeks after the geoarchaeological pre-construction excavations conclude, the project owner, the PG, and the CPM shall meet or teleconference to review the results of pre-excavations and decide on the need for radiocarbon or other dating.

3. At least 45 days prior to the start of ground disturbance related to the Reinforcement Segment, the project owner shall submit the Geoarchaeological Excavation Results RPG's Report to the CRS and the CPM for review and approval.

CUL-9 The project owner shall ensure that the CRS, alternate CRS, or CRMs monitor full time all ground disturbance ~~along the linear facilities routes~~ related to the Reinforcement Segment, according to the recommendations of the Geoarchaeological Excavation Result Report field study required in CUL-4 2 and CUL-3, and as approved by the CPM, to ensure there are no impacts to undiscovered resources and to ensure that known resources are not impacted in an unanticipated manner.

Full-time archaeological monitoring ~~for this project~~ related to the Reinforcement Segment shall be the archaeological monitoring of the earth-removing activities in the areas specified in the previous paragraph, for as long as the activities are ongoing. Full-time archaeological monitoring related to the Reinforcement Segment shall require at least one monitor per excavation area where machines are actively disturbing native soils. If an excavation area is too large for one monitor to effectively observe the native soil disturbance, one or more additional monitors shall be retained to observe the area.

The project owner shall obtain the services of a Native American monitor to monitor ground disturbance in any areas where Native American artifacts are discovered in native soils. Contact lists of interested Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that shall be monitored. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM. After finding those efforts to be satisfactory, the CPM may either identify other potential monitors or allow ground disturbance to proceed without a Native American monitor.

The research design in the CRMMP shall govern the collection, treatment, retention/disposal, and curation of any archaeological materials encountered.

On forms provided by the CPM, CRMs shall keep a daily log of any monitoring and other cultural resources activities and any instances of noncompliance with the Conditions and/or applicable LORS. Copies of the daily monitoring logs shall be provided by the CRS to the CPM, if requested by the CPM. From these logs, the CRS shall compile a monthly monitoring summary report to be included in the MCR. If there are no monitoring activities, the summary report shall specify why monitoring has been suspended.

The CRS or alternate CRS shall report daily to the CPM on the status of the project's cultural resources-related activities, unless reducing or ending daily reporting is requested by the CRS and approved by the CPM.

In the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring.

The CRS, at his or her discretion, or at the request of the CPM, may informally discuss cultural resources monitoring and mitigation activities with Energy Commission technical staff.

Cultural resources monitoring activities are the responsibility of the CRS. Any interference with monitoring activities, removal of a monitor from duties assigned by the CRS, or direction to a monitor to relocate monitoring activities by anyone other than the CRS shall be considered non-compliance with these Conditions.

Upon becoming aware of any incidents of non-compliance with the Conditions and/or applicable LORS, the CRS and/or the project owner shall notify the CPM by telephone or e-mail within 24 hours. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the Conditions. When the issue is resolved, the CRS shall write a report describing the issue, the resolution of the issue, and the effectiveness of the resolution measures. This report shall be provided in the next MCR for the review of the CPM.

Verification:

1. At least 30 days prior to the start of ground disturbance related to the Reinforcement Segment, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log.
2. Monthly while monitoring is on-going, the project owner shall include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS and shall attach any new DPR 523A forms completed for finds treated prescriptively, as specified in the CRMMP.
3. At least 24 hours prior to implementing a proposed change in monitoring level, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or

some other form of communication acceptable to the CPM) detailing the CRS's justification for changing the monitoring level.

4. Daily and as long as no cultural resources are found related to the Reinforcement Segment, the CRS shall provide a statement that "no cultural resources over 50 years of age were discovered" to the CPM as an e-mail or in some other form of communication acceptable to the CPM.
5. At least 24 hours prior to reducing or ending daily reporting, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for reducing or ending daily reporting.

NOISE & VIBRATION

NOISE-4 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the noise levels due to operation of the project alone will not exceed: an hourly average of 47 at location M1, 45 at location M2, 47 at location M3, 49 at location M4, and 47 at location M5 (as shown on **Noise and Vibration Figure 1**).

No new pure-tone components shall be caused by the project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints.

A. If the results from the noise survey indicate that the power plant noise at the affected receptor sites exceeds the above values, mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

B. If the results from the noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

Verification: The project owner shall conduct a 25-hour noise survey at monitoring location M3, or at a closer location acceptable to the CPM, within 30 days of the project first achieving a sustained output of 85% or greater of rated capacity. During the period of this survey, the project owner shall also conduct short-term noise measurements between the nighttime hours of 10:00 p.m. and 7:00 a.m. at monitoring locations M1, M2, M4, and M5 or at closer locations acceptable to the CPM. All surveys shall measure one-third octave band sound pressure levels to ensure that no new puretone noise components have been caused by the project. During the 25-hour survey ~~66 percent of full load operation or greater shall be maintained between midnight and 4:00 a.m. Outside of those hours,~~ output shall be maintained at a level of 50% or greater. Within 15 days after completing the survey, the project owner shall submit a summary report of the survey to the CPM. Included in the survey report shall be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limit, and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the noise survey.

As indicated above, the measurement of power plant noise for the purposes of demonstrating compliance with this condition of certification may alternatively be made at a location, acceptable to the CPM, closer to the facility (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the affected residence.

LAND USE

LAND-2 The project owner shall ensure restoration of certain agricultural lands that are disturbed during project construction. Any lands that are identified by the Farmland Mapping and Monitoring Program as Important Farmland or located within agricultural preserves shall be restored to pre-project conditions. ~~consistent with the agreement between PG&E and the landowner.~~ Methods to restore affected agricultural lands shall include stock piling of top soil for replacement when project construction is completed. Restoration shall be considered complete when affected sites are graded and prepared for cultivation and top soil replacement is accomplished to match the conditions that were present prior to disturbance of affected farmlands.

Verification: Before the start of any project construction work on agricultural lands, the project owner shall submit written documentation to the Compliance Project Manager (CPM) describing methods that will be used to return the affected lands to preproject conditions. Within 90 days of completion of construction of the Almond 2 Power Plant and related facilities, the project owner shall provide written documentation to the Compliance Project Manager (CPM) demonstrating that all necessary work to restore disturbed agricultural lands to pre-project conditions has been completed. Written documentation shall include detailed descriptions of restoration methods and corresponding maps for affected areas.



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
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**APPLICATION FOR CERTIFICATION
FOR THE TID ALMOND 2
POWER PLANT PROJECT**

Docket No. 09-AFC-2

**PROOF OF SERVICE
(Revised 7/30/10)**

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DECLARATION OF SERVICE

I, Hilarie Anderson, declare that on September 9, 2010, I served and filed copies of the attached Staff's Comments to the Applicant's Recommended Changes to the RSA. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [\[http://www.energy.ca.gov/sitingcases/almond\]](http://www.energy.ca.gov/sitingcases/almond).

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

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

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

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

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Attn: Docket No. 09-AFC-2
1516 Ninth Street, MS-4
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I declare under penalty of perjury 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.

Original Signature in Dockets

Hilarie Anderson