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**STATE OF CALIFORNIA  
California Energy Commission**

In the Matter of:

The Application for Certification  
for the GENESIS SOLAR ENERGY  
PROJECT

Docket No. 09-AFC-8

**CALIFORNIA UNIONS FOR RELIABLE ENERGY'S  
PROPOSED CHANGES TO THE  
PRESIDING MEMBER'S PROPOSED DECISION**

September 20, 2010

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California Unions for Reliable Energy (“CURE”) has reviewed the Presiding Member’s Proposed Decision (“PMPD”) for the Genesis Solar Energy Project (“Project” or “Genesis” or “GSEP”). Pursuant to the Committee Notice of Availability of the Presiding Member’s Proposed Decision and Notice of Committee Conference and Notice of Full Commission Hearing, CURE submits these proposed changes to the PMPD. Suggested additions are shown in underline and suggested deletions are shown in ~~striketrough~~. CURE also directs the Committee’s attention to CURE’s comments on the PMPD, filed on September 20, 2010.

As an initial matter, CURE would like to respond to a question raised by the Hearing Officer at the September 8, 2010 Committee Conference on the PMPD. The Hearing Officer asked, “where is the evidence that the Project would be drawing Colorado River water?” Here is the evidence:

- According to the U.S. Geological Survey (USGS), water pumped in an aquifer that is connected to the River may draw from the mainstream of the Colorado River. (Exh. 429, p. 1.)
- According to USGS, underground pumping that occurs in wells that are a great distance from the Colorado River can deplete water in the Colorado River. (Exh. 429, pp. 1-2.)
- According to USGS, depletion of the River “can result from decreased flow from the aquifer to the river, increased flow from the river to the aquifer, or a combination of these two conditions. For both of these cases, the amount of water in the river is reduced and the total depletion of the flow in the river is the sum of the two quantities.” (Exh. 429, p. 2.)
- According to Staff, “water in the Colorado River is fully appropriated and any diversion of water from the Colorado River would be a significant impact.” (Exh. 400, p. C.9-68.) Staff concluded that the Project would significantly impact the Colorado River by inducing flow from the River. (Exh. 400, pp. C.9-75, 117; Exh. 402, p. 31.)
- The Applicant did not provide an analysis of the proportion of water originating from storage, from natural recharge, or from Colorado River underflow. (Exh. 400, p. C.9-68.) However, the Project proposes to pump groundwater in an area of the Chuckwalla Valley Groundwater Basin (CVGB) that the USGS determined to be part of the ‘river aquifer’ and is hydraulically connected to the Colorado River. (Exh. 429; Exh. 541.)
- “[T]he connection between the Colorado River and groundwater in the CVGB and the PVMGB has been established.” (Exh. 402, p. 31.) The USGS

indicated that the CVGB and Palo Verde Mesa Groundwater Basin (PVMGB) lie within a basin tributary to the Colorado River. (Exh. 400, p. C.9-47.) Underflow occurs from the CVGB to the PVMGB and the PVMGB flows to the Colorado River. (Exh. 400, p. C.9-22; Exh. 418, p. G41.) The Colorado River recharges the PVMGB. (Exh. 418, p. G39.) The Applicant's data shows that Project groundwater pumping would reduce the flow from the CVGB to the PVMGB. (Exh. 60, Biological Resources, Technical Memorandum.) According to Staff, "the reduction in outflow from the CVGB to the PVMGB will be made up at least in part by inflow from the Colorado River." (Exh. 402, p. 31.) The Applicant testified that the "reduction in underflow could result in a 'depletion' of Colorado River water." (Exh. 60, Soil & Water Resources, p. 20.)

- Staff concluded that "wells extracting water in the Chuckwalla Valley Groundwater Basin and Palo Verde Mesa Groundwater Basin are extracting water from the 'river aquifer.'" (Exh. 402, pp. 28.)
- Staff also concluded that "all groundwater production at the site would be considered Colorado River water." (Exh. 400, p. C.9-68.)

## **I. SOIL AND WATER RESOURCES**

### **A. The PMPD Must Include All Applicable LORS in Appendix A, Including *Arizona v. California***

The Warren-Alquist Act requires that the Commission's decision include findings regarding the Project's conformity with all applicable local, state, regional and federal laws, ordinances, regulations and standards ("LORS").<sup>1</sup> The PMPD states that the Project will comply with all applicable LORS.<sup>2</sup> Appendix A of the PMPD is a table of applicable LORS for the Project. The Soil and Water section of Appendix A does not include the United States Supreme Court consolidated decree, *Arizona v. California* (2006) 547 U.S. 150, as a federal LORS. The Supreme Court consolidated decree requires an entitlement for any diversion or consumptive use of lower Colorado River mainstream water.<sup>3</sup> Pursuant to the decree, consumptive use of the mainstream includes "water drawn from the mainstream by underground pumping."<sup>4</sup> The PMPD must include the decree as a federal LORS. The Commission must ensure that the Project complies with federal law by not unlawfully pumping Colorado River water. The PMPD must be revised to include the Commission's analysis and finding regarding the Project's compliance with *Arizona v. California*, and a condition of certification to ensure compliance.

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<sup>1</sup> Pub. Res. Code § 25523(d)(1).

<sup>2</sup> PMPD, Soil and Water, p. 1.

<sup>3</sup> *Arizona v. California*, 547 U.S. at 156.

<sup>4</sup> *Id.* at 153.

## 1. Recommended Addition to the Text of the PMPD

The following language should be added to the PMPD to provide a discussion of the Project's compliance with *Arizona v. California* that reflects the record in this case:

### Compliance with *Arizona v. California*

The United States Supreme Court consolidated decree *Arizona v. California* (2006) 547 U.S. 150, requires an entitlement for any consumptive use of lower Colorado River mainstream water. The decree defines consumptive use as "diversions from the stream less such return flow thereto," which includes "water drawn from the mainstream by underground pumping." (*Arizona v. California*, 547 U.S. at 156.) *Arizona v. California* prohibits the State of California from "diverting or purporting to authorize the diversion of water from the mainstream the diversion of which has not been authorized by the United States for use in the respective States," and from "consuming or purporting to authorize the consumptive use of water from the mainstream in excess of the quantities permitted under" the decree. (*Arizona v. California*, 547 U.S. at 159-160.) The U.S. Supreme Court decree also requires the Secretary of the Interior to provide detailed and accurate records of diversions, return flows, and consumptive use of water diverted from the mainstream of the lower Colorado River. (*Arizona v. California*, 547 U.S. at 164-165.) In other words, the Secretary of the Interior must ensure that all use of Colorado River water is covered by an entitlement and is accurately accounted for in order to prevent unlawful use of the water.

According to the U.S. Geological Survey (USGS), water pumped in an aquifer that is connected to the River may draw from the mainstream of the Colorado River. (Exh. 429, p. 1.) Also, underground pumping that occurs in wells that are a great distance from the Colorado River can deplete water in the Colorado River. (Exh. 429, pp. 1-2.) Depletion of the River "can result from decreased flow from the aquifer to the river, increased flow from the river to the aquifer, or a combination of these two conditions. For both of these cases, the amount of water in the river is reduced and the total depletion of the flow in the river is the sum of the two quantities." (Exh. 429, p. 2.)

According to Staff, "water in the Colorado River is fully appropriated and any diversion of water from the Colorado River would be a significant impact." (Exh. 400, p. C.9-68.) The Applicant did not provide an analysis of the proportion of water originating from storage, from natural recharge, or from Colorado River underflow. (Exh. 400, p. C.9-68.) However, the Project proposes to pump groundwater in an area of the Chuckwalla Valley Groundwater Basin (CVGB) that the USGS determined to be part of the 'river aquifer' and is hydraulically connected to the Colorado River. (Exh. 429; Exh. 541.)

"[T]he connection between the Colorado River and groundwater in the CVGB and the PVMGB has been established." (Exh. 402, p. 31.) The USGS indicated that the CVGB and Palo Verde Mesa Groundwater Basin (PVMGB) lie within a basin tributary to the

Colorado River. (Exh. 400, p. C.9-47.) Underflow occurs from the CVGB to the PVMGB and the PVMGB flows to the Colorado River. (Exh. 400, p. C.9-22; Exh. 418, p. G41.) The Colorado River recharges the PVMGB. (Exh. 418, p. G39.) The Applicant's data shows that Project groundwater pumping would reduce the flow from the CVGB to the PVMGB. (Exh. 60, Biological Resources, Technical Memorandum.) According to Staff, "the reduction in outflow from the CVGB to the PVMGB will be made up at least in part by inflow from the Colorado River." (Exh. 402, p. 31.) The Applicant testified that the "reduction in underflow could result in a 'depletion' of Colorado River water." (Exh. 60, Soil & Water Resources, p. 20.)

Staff concluded that "wells extracting water in the Chuckwalla Valley Groundwater Basin and Palo Verde Mesa Groundwater Basin are extracting water from the 'river aquifer.' (Exh. 402, pp. 28.) Staff also concluded that "all groundwater production at the site would be considered Colorado River water." (Exh. 400, p. C.9-68.) Staff recognized that its conclusion was based on a simplified methodology for calculating how much water from the Colorado River would be drawn from the Project's groundwater pumping. (Exh. 400, p. C.9-68.) However, Staff, in its original Condition of Certification **SOIL&WATER-19**, allowed the Applicant to conduct a refined analysis of the quantity of Colorado River water that would replace water used by the Project thereby changing the amount of Colorado River water required to be replaced in accordance Condition of Certification **SOIL&WATER-15**. (Exh. 400, pp. C.9-68-69.) Staff noted that the amount of mitigation required would be less under a dry cooled Project versus a wet-cooled Project. According to Staff, "the applicant's decision to utilize air cooled condensers lessened the reduction in flow between the Chuckwalla Valley Groundwater Basin and other portions of the Colorado River system, but did not eliminate impacts altogether." (Staff's Opening Brief, p. 9.) Thus, under a dry cooling scenario, the Project would still result in a significant impact to the Colorado River for which Staff required mitigation. (Staff's Opening Brief, p. 9.)

After discussions with the Applicant, Staff agreed to change its conditions of certification. Instead of refining "the estimates of the amount of subsurface water flowing from the Colorado River due to project pumping," **SOIL&WATER-19** now allows the Applicant to "conduct an analysis of the Project's effect on the PVMGB groundwater budget including an estimate of the decrease in underflow from the CVGB to the PVMGB." (Exh. 443, pp. C.9-4-5.) This change merely alters the point at which the mitigation is measured. Rather than measuring the mitigation required to address the significant impact to the Colorado River, the mitigation will be measured at the point where the CVGB and PVMGB meet. As a result, modeling will not be conducted to determine the amount of inflow from the Colorado River caused by the Project's groundwater use. But the changed condition does not alter Staff's finding that "the reduction in outflow from the CVGB to the PVMGB" that results from Project groundwater use "will be made up at least in part by inflow from the Colorado River." (Exh. 402, p. 31.) Nor does it alter Staff's conclusion that "all groundwater production at the site would be considered Colorado River water." (Exh. 400, p. C.9-68.)

Although Staff and the Applicant “agreed to not litigate the extent to which the Genesis project would have an effect on Colorado River water,” (Staff’s Opening Brief, p. 9) the Commission must comply with federal law that requires an entitlement for any consumptive use of Colorado River mainstream water. Because the Project’s groundwater use “will be made up at least in part by inflow from the Colorado River,” (Exh. 402, p. 31) the Applicant must obtain an entitlement for Project groundwater use.

## **2. Suggested Changes to PMPD Text**

Based on the evidence in the record for this proceeding, the PMPD’s discussion of the Project’s use of Colorado River water should be revised as follows:

### **(a) Bottom of p. 9 of the PMPD**

Based on the connection between the CVGB and the Colorado River, however, the evidence suggests that wells drawing groundwater from the CVGB ~~could~~would result in impacts to the river and the adjacent PVMGB (which is located between the project site and the river). ~~Specifically Because,~~ water supplies in the Colorado River are fully appropriated, with the existing appropriations encompassing all consumptive uses (including applicable groundwater pumping) pursuant to related Supreme Court decrees, GSEP must have an entitlement for its proposed groundwater use.

Specifically, the CVGB outflows to the PVMGB. (Exh. 400, p. C.9-22; Exh. 418.) Staff concluded that a “reduction in the outflow from the CVGB to the PVMGB will be made up at least in part by inflow from the Colorado River” and therefore the Project’s proposed pumping would result in a significant impact by inducing flow from the Colorado River. (Exh. 402, p. 31; Exh. 400, pp. C.9-47-48, 75, 117.) The USGS determined that the CVGB and PVMGB lie within a groundwater basin tributary to the Colorado River. (Exh. 400, p. C.9-47.) USGS determined that wells drawing groundwater within the CVGB and PVMGB are considered to be pumping Colorado River water. (Exh. 400, p. C.9-47) Based on USGS’s determination, Staff also concluded that wells extracting water in the CVGB are extracting water from the Colorado River. (Exh. 402, p. 28.) The USGS, the Colorado River Board and the Metropolitan Water District (“MWD”) concur that the CVGB is hydraulically connected to the Colorado River and wells extracting water in the CVGB are considered to be extracting water from the Colorado River. (Exh. 400, pp. C.9-47-48; Exh. 546, p. 2; Exh. 532; Exh. 429; Exh. 521.) Consequently, groundwater production at the GSEP site would be considered Colorado River water. (Exh. 400, p. C.9-68.)

### **(b) Last paragraph on p. 10 of the PMPD**

In their brief, CURE reopens the argument that pumping groundwater below the GSEP is pumping Colorado River water. CURE correctly asserts that federal law requires lower Colorado River mainstream water users to have an entitlement and that “consumptive use” of the mainstream includes “water drawn from the mainstream by

underground pumping.” (CURE’s 2<sup>nd</sup> Op. Brief, p. 4 citing Arizona v. California, 547 U.S. at 153.) CURE relies on ~~the U.S. Bureau of Reclamations accounting surface methodology. (Exhibit 541). evidence that shows a hydraulic connection between the CVGB, the PVMGB and the Colorado River. (Exh. 400, pp. C.9-47-48; Exh. 402, pp. 26-31; Exh. 418, pp. G42-43; Exh. 429; Exh. 521; Exh. 532; Exh. 546, p. 2.) Specifically, CURE relies on USGS’ determination that wells drawing water within the CVGB and PVMGB are considered to be pumping Colorado River water. (Exh. 400, p. C.9-47.) In addition, CURE relies on Metropolitan Water District’s statement that the Project proposes to pump groundwater from a basin that is hydrologically connected to the Colorado River. (Exh. 532, p. 3.) Finally, CURE relies on the Colorado River Board’s concurrence that the Project is located within an area hydraulically connected to the Colorado River, and consequently, groundwater pumped from the wells located on the Project site would be replaced by Colorado River water. (Exh. 546, p. 2.)~~

(c) Last paragraph on p.11to top of p. 12 of the PMPD

None of the parties introduced testimony at the evidentiary hearing on the accounting surface methodology’s applicability to the Genesis project. CURE introduced Exhibit 541 entitled “Update of the Accounting Surface along the Lower Colorado River,” which describes the methodology and contains a maps (Figure 6) that indicates that the accounting surface ~~may extends~~ to the area where the GSEP site will be located. ~~However there is nothing in the record that compels us to adopt the methodology, which we have already found is not a LORS. More to the point, there is nothing in the record that actually applies the methodology to the quantity of groundwater that GSEP will use or that the GSEP “would cause the static groundwater table to drop below the theoretical accounting surface” as argued by Applicant, supra. CURE simply has not provided sufficient evidence to convince us to make a finding that the groundwater pumped at the GSEP site in the Chuckwalla Valley Groundwater Basin is water drawn from the mainstream of the Colorado River [Tit. 20, Cal. Code of Regs, 1748(e)]. Given the scant record before us regarding this issue, we simply do not have enough evidence to impose a condition requiring the GSEP to obtain a Colorado River entitlement.~~ USGS determined, based on the accounting surface methodology, that wells drawing water within the CVGB and PVMGB are considered to be pumping Colorado River water. (Exh. 400, p. C.9-47.) Staff relied on USGS’ use of the accounting surface methodology when Staff determined that “wells extracting water in the Chuckwalla Valley Groundwater Basin and Palo Verde Mesa Groundwater Basin are extracting water from the ‘river aquifer’.” (Exh. 402, p. 28.) The accounting surface methodology is applicable to the Project as a tool to factually determine that the Project would pump Colorado River water. Because the GSEP would draw water from the Colorado River, the Applicant must obtain a Colorado River entitlement, which the record shows is available. (Exh. 532, p. 4.)

### 3. Suggested Changes to Findings of Fact

12. ~~There is no existing legal requirement for The United States Supreme Court consolidated decree *Arizona v. California* (2006) 547 U.S. 150, requires the project to obtain an entitlement to Colorado River water for its water supply.~~

### 4. Suggested Changes to Conditions of Certification

- (1) The following language should be added to the verification of Soil&Water-5 Construction and Operation Water Use (p. 45):

The project owner shall submit all water usage summaries to the United States Bureau of Reclamation and the Metropolitan Water District to account for GSEP's water use pursuant to *Arizona v. California* (2006) 547 U.S. 150.

- (2) The following condition of certification should be added to the PMPD:

Pursuant to *Arizona v. California* (2006) 547 U.S. 150, the project owner shall obtain a legal entitlement to use Colorado River water.

#### B. Soil&Water-15 Must Be Revised

The Metropolitan Water District informed Staff that “payment for irrigation improvements in Palo Verde Irrigation District” and participation in “BLM’s Tamarisk Removal Program” are not available to the Applicant to mitigate impacts to Colorado River resources. (Exh. 532.) Thus, these two offsets must be stricken from Soil & Water-15.

**SOIL&WATER-15** ...Water conservation projects that may be considered as mitigation include the following: ~~payment for irrigation improvements in Palo Verde Irrigation District (PVID), payment for conversion to cultivation of crops with lower crop water demand in the PVID, use of tertiary treated water, implementation of water conservation programs in the CVGB, PVMGB or Colorado River flood plain communities, and/or participation in BLM's Tamarisk Removal Program...~~

## II. CULTURAL RESOURCES

### A. The PMPD Must Include an Analysis of the Project's Impacts on Human Burials

The PMPD must include a discussion of the Project's impacts on human burials. CURE and Staff submitted extensive testimony regarding the high likelihood of the presence of human burials on the Project site. Staff admitted that it did not analyze the Project's impacts on human cemeteries. CURE submitted

considerable briefing dedicated to the Project's impacts on human burials. However, the PMPD does not mention human burials at all—not once. There is no reason why, despite substantial evidence showing that the Project would impact human burials, the PMPD does not address the issue.

The Commission cannot make findings pursuant to Public Resources Code section 21081 and Energy Commission regulations section 1775(c) regarding the Project's significant direct and indirect impacts on cultural resources until each of the Project's significant impacts are disclosed and analyzed and all feasible mitigation is required. Until the Project's impacts on human burials are analyzed and the Commission is adequately informed of the Project's environmental effects, the Commission cannot find that all feasible mitigation has been required, nor can the Commission find that the Project's significant direct, indirect and cumulative impacts on cultural resources are outweighed by the Project's benefits.

### **1. Recommended Addition to the Text of the PMPD**

Staff assumed that 27 resources directly impacted by the Project would be significant. However, because test excavations were not conducted, Staff admittedly could not analyze the Project's potential to significantly impact buried cultural resources, including human burials. (July 21, 2010 Tr., pp. 177-179.) Staff and CURE agree that because the Project is located adjacent to a dry lake, the probability of the archaeological sites containing human remains is high. (July 21, 2010 Tr., pp. 210-211, 260-261.) The Applicant also recognized "that there was a high potential for cultural resources in the area, as it was and is a dry lake." (July 21, 2010 Tr., p. 214.) Staff's assumption that 27 resources would be directly impacted by the Project does not account for the likely presence of burials. There are likely numerous unidentified buried resources that would be significantly impacted by the Project.

Absent test excavations, there is no assurance that buried resources impacted by the Project would be avoided. Staff and CURE agree the size of sites could have been significantly underestimated because formal site boundaries were not determined. (July 21, 2010 Tr., pp. 183-184.) The Applicant also understands the importance of test excavations for determining site boundaries. (July 21, 2010 Tr., p. 215.) Staff and CURE agree that because site boundaries were not determined, it is impossible to know whether resources would actually be avoided. (July 21, 2010 Tr., p. 187.)

Staff and CURE agree that conducting test excavations is standard practice for determining a project's impacts on cultural resources. (July 21, 2010 Tr., p. 182; Exh. 512, p. 2.) There is nothing in the record that shows that test excavations could not have been conducted to determine the presence of buried resources and the significance values that they may contain. Staff's reason for not requiring test excavations was a tight timeframe and the large Project size. (July 21, 2010 Tr., p. 197.) However, undisputed evidence shows that test excavations were feasible. CURE submitted evidence that test excavations were conducted on a project site containing 87 archaeological sites in six weeks. (Exh. 512, p.3.) Certainly, 27 archaeological sites

could have been tested during the three years that the Applicant conducted fieldwork for the Project. (Genesis Opening Brief, p. 6.) The Applicant must conduct test excavations prior to ground disturbance, which the record shows is feasible.

## **B. Suggested Changes to Conditions of Certification**

The PMPD should include a condition that requires the Applicant to conduct Phase II test excavations, prior to the start of ground disturbance, to determine the extent of buried resources and the significance values they may contain. To avoid harm to the resources, excavations should be performed by hand, *not* by mechanical means.

Accordingly, CURE recommends the following changes to CUL-10, CUL-11 and CUL-12:

### **CUL-10 DATA RECOVERY PHASE II TESTING FOR SMALL SITES**

Prior to the start of ground disturbance within 100 meters of the site boundary of sites; ~~the project owner shall ensure that the CRMMP includes a data recovery plan for the following sites: CA-Riv-9084, CA-Riv-9209, CA-Riv-9215, CA-Riv-9216, CA-Riv-9220, CA-Riv-9223, CA-Riv-9227, CA-Riv-9249 and CA-Riv-9255,~~ the project owner shall ensure that the CRMMP includes a Phase II testing and determination of significance plan for these sites. This site list may be revised only with the agreement of the CRS and the CPM. ~~When ground disturbance will start within 30 meters of the boundaries of these sites;~~ The project owner shall ensure that the CRS, the PPA, and/or archaeological team members implement the plan, if allowed by the BLM, which shall include, but is not limited to the following tasks:

1. Use of location recordation equipment that has the latest technology with sub-meter accuracy ~~(such as UTM 11 North or California Teale Albers)~~ to add to the original site maps the following features: seasonal drainages, site boundaries, location of each individual artifact, and the boundaries around individual artifact concentrations;
2. Collectsion of all formal and diagnostic artifacts after their locations are marked, and submitssion of these specimens for laboratory analysis, following existing professional standards in the region;
3. ~~Requests the PG to identify~~ The identification of the specific landform for each site and its relationship to specific ancient lakeshores of Ford Dry Lake. If a lakeshore is present within 100 meters of the site boundary, it shall be included on the site map;
4. ~~Excavates one 1-meter by 1-meter unit in 10-centimeter levels until the unit reaches the top of the Qoaf alluvium, placing these units in the part of the site with the highest artifact density. Completion of an investigation of the potential Native American associative values of the site, conducted by the Project Ethnographer during compliance with CUL-1 and/or CUL-16.~~

5. Places, one 1-meter-by-1-meter excavation unit, as described above, in the center of each concentration if multiple artifact concentrations have been identified; Sites that, based on visual examinations during previous inventories, appear to meet the characteristics defined for "sparse lithic scatters" in the OHP CARIDAP protocol (Jackson et al. 1988), shall be tested following the procedures and specifications (including sub-surface sampling requirements) provided by that protocol. This includes, but is not limited to, the collection of a representative sample of surface lithic debitage from each site for purposes of chronometric dating.
6. Tests the horizontal limits of the site by placing test units down to the upper boundary of the Qoaf alluvium with a shovel or hand auger, or other similar technique, at four spots equally spread around the exterior edge of each site; Given recent advances in the chronometric dating of surface archaeological finds in the California deserts based on analyses of rock varnish, the samples of collected debitage must include obsidian and either (1) specimens with observable rock varnish coatings or (2) the complete collection of all debitage from a given site in order to allow identification of samples appropriate for chronometric dating in the lab. Because archaeologists are untrained in and unfamiliar with identifying small samples of rock varnish and commonly confuse it with a variety of other rock coatings or weathering phenomena, in-field sampling of appropriate, datable specimens may only be performed by a rock varnish dating specialist, as demonstrated by one or more publications on this topic in a refereed professional journal.
7. Continues exploring the extent of the site using methods described in CUL-11, if features or other buried deposits are identified. Plans for this contingency shall be described in detail in the CRMMP. If no buried deposits are found, data recovery is complete; If a site is determined to qualify as a "sparse lithic scatter" following the definition provided in the CARIDAP protocol, if it lacks Native American associative values, and if it does not meet the CEQA definition of a Unique cultural resource, the completion of the CARIDAP fieldwork, data collection and analyses shall constitute the acquisition of scientifically consequential information from and about that resource, and this shall serve to mitigate adverse impacts to it as a result of Project development and implementation.
8. Presents the results of the **CUL-10** data recovery in a letter report by the PPA or CRS, which shall serve as a preliminary report. Letter reports may address one site or multiple sites depending on the needs of the CRS. The letter report shall be a concise document that provides description of the schedule and methods used in the field report, a preliminary tally of the numbers and types of features and deposits that were found, a discussion of the potential range of error for that tally, and a map showing the location of excavation units including topographic contours and the site landforms; For sites determined to not meet the CARIDAP specifications based on the presence of a subsurface deposit, the presence of a diverse surface artifact assemblage, or other reasons, and for other, smaller sites, hand excavation of one or more 1-meter-by-1-meter units, dug in 10-centimeter levels with all spoils screened through 3 mm mesh,

until the unit reaches the top of the Qoaf alluvium, placing these units in the part of the site with the highest artifact density.

9. Updates the existing Department of Parks and Recreation (DPR) 523 site form for these sites, including new data on seasonal drainages, site boundaries, location of each individual artifact, the boundaries around individual artifact concentrations, and the landform; and Excavation of one 1-meter-by-1-meter excavation units, as described above, in the center of each concentration if multiple artifact concentrations have been identified;

10. Presents the final results of data recovery at these prehistoric sites in the CRR, as described in **CUL-6**. Testing the horizontal limits of the site by excavating test units down to the upper boundary of the Qoaf alluvium with a shovel or hand auger, or other similar technique, with all spoils screened through 3 mm mesh, at locations spread around the exterior edge of each site;

11. Mapping and surface collection of all formal artifacts and a representative sample of datable lithic debitage, as specified by the procedures outlined above;

12. If no sub-surface archaeological deposits are found, if a statistically representative sample of the site's artifact assemblage has been obtained (i.e., any additional data collection would result in data redundancy), if it lacks Native American associative values, and if it does not meet the CEQA definition of a Unique cultural resource, the completion of the fieldwork, data collection and analyses shall constitute the acquisition of scientifically consequential information from and about that resource, and this shall serve to mitigate adverse impacts to it as a result of Project development and implementation.

13. Continued exploration of the extent of the site using methods described in **CUL-11**, if buried features or other sub-surface deposits are identified. Plans for this contingency shall be described in detail in the CRMMP.

#### **CUL-11 DATA RECOVERY PHASE II TEST EXCAVATIONS FOR LARGE SITES**

Prior to the start of ground disturbance, the project owner shall ensure that the CRMMP includes a plan to ~~recover data from~~ evaluate those parts of sites CA-Riv-0260, CA-Riv-0663, and CA-Riv-9072 that the project will directly impact. ~~When ground disturbance will start within 30 meters of the boundaries of this site, t~~The project owner shall then ensure that the plan is implemented, if allowed by the BLM. The ~~sub-surface data recovery~~ evaluation plan at these three sites shall, at a minimum, include the following:

1. The research questions to be addressed by the ~~data recovery at this potential testing at these three~~ PTNCL contributors, based on ~~any the~~ context written by the PTNCL staff ~~as funded by CUL-1~~. PI-Prehistoric Archaeologist, PTNCL Ethnographer, and PTNCL Ethnohistorian, as described in **CUL-1**;
2. The flagging of the entire boundary of each site as required in **CUL-13**;

2. ~~3.~~ The accurate and conspicuous marking with lath and flagging of that portion of each site that is inside plant site boundaries and subject to destruction; this area shall constitute the study area for each site;
- ~~3.~~ ~~4.~~ The detailed examination of the surface within each site study area;
4. ~~5.~~ The creation of a digital map using location al recording ingation equipment using the latest technology with sub-meter accuracy (~~such as UTM-11 North or California Teale Albers~~); the map shall include at a minimum: the site boundary, local landforms, features, and the boundaries around artifact concentrations; point proveniencing on the map of all formal and diagnostic artifacts shall be used unless, in cases of high artifact density, alternative methods can be negotiated with the CPM. After the location of each artifact is marked, it shall be collected for analysis; FAR (fire-affected rock—rock that shows evidence of having been in prolonged contact with fire) that is not also groundstone, may be mapped, counted, recorded and discarded;

~~5. The testing of horizontal limits of the site by placing test units down to the upper boundary of the Qoaf alluvium using hand excavation, augers, or other similar non-mechanical technique;~~

~~6. Using testing results to determine additional excavation that the CRS, the PPA, BLM, and the CPM shall agree upon and in order to explore the spatial variability in the physical and material character and the chronology of the site; Completion of an investigation of the potential Native American associative values of the site, conducted by the Project Ethnographer during compliance with CUL-1 and/or CUL-16.~~

~~7. If mechanical excavation is used to identify buried deposits, a trenching plan shall be included in the CUL-11 data recovery plan in the CRMMP, shall specify the location of the trenches and the strategy behind their placement at each site; at a minimum the trenching plan shall:~~

- ~~a. Result in a 2.5 percent sample of the portion of the site expected to be destroyed, trench spacing between 10-m to 50-m, and a trench orientation from north-south, unless site specific conditions suggest better results using a different arrangement;~~
- ~~b. Use backhoe trenches two feet wide and generally dug to depths no greater than 5 feet to conform to OSHA standards;~~
  - ~~c. Use stepped trenches or hydraulic shoring if a depth greater than 5 feet is required to investigate archaeological features, to comply with OSHA regulations;~~
  - ~~d. Require trench walls, excavated within the boundaries of the archaeological site, to be scraped with hand tools to provide a clear exposure of subsurface cultural remains;~~
  - ~~e. Require archaeological features identified in trench walls to be marked and assigned a number; and~~
  - ~~f. Require the completion of a trench record form for each trench that includes its essential characteristics (trench number, length, width, and depth), the locations and types of archaeological features, the stratigraphy~~

~~and characteristics of exposed sediments, and locations of disturbances such as tree roots or animal burrows.~~

~~Systematic surface collection, following mapping, of all formal and diagnostic artifacts, and a representative sample of datable lithic debitage, following the procedures outlined in CUL-10.~~

~~8. The requirements that:~~

- ~~a. All identified features shall be documented through standardized forms, scaled profile drawings, plan view maps, and photographs;~~
- ~~b. Between 50 and 100 percent of the features identified shall be fully or partially excavated, depending on their state of preservation and the presence or absence chronologically relevant materials;~~
- ~~c. The proportion of excavated features shall be negotiated between the owner and the CPM, depending on the nature of the features identified, their rarity, and their information potential; and~~
- ~~d. Buried features shall be excavated by hand or by mechanical "stripping" with a backhoe bucket to remove sterile overburden~~
- ~~e. Samples such as flotation, pollen, and charcoal shall be methodically collected from appropriate contexts, and artifacts such as lithics, ceramics, groundstone, and shell shall be subject to the professionally appropriate laboratory analyses.~~

~~Completing additional surface collection transects or units, judgmentally placed in areas of highest artifact density, in total representing 10 percent of the overall site area outside of the plant site boundaries; the artifacts in these transects shall be mapped and then collected;~~

~~9. The determination of the age and function of the site, if possible; Analyzing the collected artifacts and the incorporate the results into the appropriate section of the CRR for each site;~~

~~10. A letter report, which shall serve as a preliminary report, written by the CRS, submitted to the CPM that details what was found at each site, as follows:~~

- ~~a. Letter reports may address one site, or multiple sites depending on the needs of the CRS; and~~
- ~~b. The letter report shall be a concise document the provides a description of the schedule and methods used in the field effort, a preliminary tally of the numbers and types of features and deposits that were found, a discussion of the potential range of error for that tally, and a map showing the location of excavation units, including topographic contours and the site landforms.~~

~~Hand excavation of a sufficient number of one by one meter units to accurately determine the vertical and horizontal limits of the site, and to allow for the determination of the nature and significance of the site. These will be excavated in 10 cm levels, with all spoils screened through 3 mm mesh. Excavation shall continue until the upper limits of the Qoaf alluvium has been reached.~~

11. The updating of the existing DPR 523 site forms including new data on features, artifact analyses and the overall results of the data recovery and the landform; The employment of an experienced archaeologist/backhoe operator team (as described in CUL-3) to conduct any mechanical excavation;
12. The definitive determination as to whether the site evaluated is a contributing element to the PTNCL, made by the PTNCL PI using the data collected from the field work; Field direction by the PSSA, with qualifications described in CUL-3, of any fieldwork at these three sites or any other GSEP sites that require mechanical excavation;
13. The completion of a final, comprehensive report, after all recovered data are analyzed, written by the CRS and/or the trench specialist, or under their direction; The identification of any buried deposits, to be accomplished by placing a series of backhoe trenches in systematic intervals across each site. A trenching plan, developed by the PSSA, shall specify the location of the trenches and the strategy behind their placement at each site; at a minimum the trenching plan shall:
  - a. Result in a 10 percent sample of the portion of the site expected to be destroyed, trench spacing between 10-m to 50-m, and a trench orientation from north-south, unless site specific conditions suggest better results using a different arrangement;
  - b. Use backhoe trenches two feet wide and generally dug to depths no greater than 5 feet to conform to OSHA standards;
  - c. Use stepped trenches or hydraulic shoring if a depth greater than 5 feet is required to investigate archaeological features, to comply with OSHA regulations;
  - d. Require trench walls, excavated within the boundaries of the archaeological site, to be scraped with hand tools to provide a clear exposure of subsurface cultural remains;
  - e. Require archaeological features identified in trench walls to be marked and assigned a number; and
  - f. Require the completion of a trench record form for each trench that includes its essential characteristics (trench number, length, width, and depth), the locations and types of archaeological features, the stratigraphy and characteristics of exposed sediments, and locations of disturbances such as tree roots or animal burrows.
14. The updating of the existing DPR 523 site forms including new data on features, artifact analyses and the overall results of the data recovery and the landform; The requirements that:
  - a. All identified features shall be documented through standardized forms, scaled profile drawings, plan view maps, and photographs;
  - b. All features, with the exception of human remains or other remains deemed sensitive by the Native American monitor, shall be fully excavated, and appropriate samples recovered from them including, but not limited to, artifacts, chronometric, soils, palynological and paleoethnobotanical samples;
  - c. Buried features shall be excavated by hand but may be exposed by mechanical "stripping" with a backhoe bucket to remove any sterile overburden until 20 centimeters above the limits of the feature, as identified in the trench wall, then excavating the

remainder of the feature by hand, using the standard archaeological methods as outlined by the California SHPO; and

d. Samples such as flotation, pollen, and charcoal shall be methodically collected from appropriate contexts, and artifacts such as lithics, ceramics, groundstone, and shell shall be subject to the professionally appropriate laboratory analyses.

15. The inclusion of the final version of this report in the CRR (~~CUL-6~~). The determination of the age and function of each site, if possible;

16. The inclusion of relevant portions of the information gathered in the National Register nomination for the PTNCL, if the nomination is done; if that portion of a site subject to direct project impacts is found to lack a subsurface archaeological deposit, if a statistically representative sample of the site's surface artifact assemblage within the Project APE has been obtained (i.e., any additional data collection would result in data redundancy), if it lacks Native American associative values, and if it does not meet the CEQA definition of a Unique cultural resource, the completion of the fieldwork, data collection and analyses shall constitute the acquisition of scientifically consequential information from and about that resource, and this shall serve to mitigate adverse impacts to it as a result of Project development and implementation.

16. If the results would be of interest to the professional community, and BLM allows, a paper will be presented at a professional conference incorporating the final results of all data recovery at CA-Riv-9072, in accordance with all applicable laws.

### **CUL-12 SURFACE COLLECTION WITH SAMPLING FOR SITE CA-RIV-9072**

Prior to the start of ground disturbance, the project owner shall ensure that the GRMMP includes a plan to recover data from those parts of site CA-Riv-9072 that the project will both directly and indirectly impact. When ground disturbance will start within 30 meters of the boundaries of this site, the project owner shall ensure that the plan is implemented, if allowed by the BLM. The surface data collection plan shall include, but is not limited to the following:

1. Completing a surface collection in the part of site CA-RIV-9072 that is inside the plant site boundaries, and thus subject to destruction, prior to ground disturbance in the area; all diagnostic artifacts and features shall be mapped using location recordation equipment that has the latest technology with sub-meter accuracy (such as UTM 11 North or California Teale Albers), and collected; if datable materials are present on the ground surface and in clear association with a feature, a sample of these materials shall be collected;
2. Completing additional surface collection transects or units, judgmentally placed in areas of highest artifact density, in total representing 10 percent of the overall site area outside of the plant site boundaries; the artifacts in these transects shall be mapped and then collected;
3. Analyzing the collected artifacts and the incorporate the results into the appropriate section of the CRR for CA-RIV-9072;

- ~~4. Writing and submitting to the CPM a letter report by the CRS and PPA, which shall serve as a preliminary report that details what was found at CA-RIV-9072. Letter reports may address one site, or multiple sites depending on the needs of the CRS; the results of the surface collection may be incorporated into the results of the data recovery, required in **CUL-11**, at the same site, depending on the needs of the CRS;~~
- ~~5. Ensuring that the letter report is a concise document that provides description of the schedule and methods used in the field effort, a preliminary tally of the numbers and types of features and deposits that were found, a discussion of the potential range of error for that tally, and a map showing the location of collection units including topographic contours and the site landforms; and~~
- ~~6. Including the final results of the surface collection at CA-RIV-09072 into the CRR required under **CUL-6** and in the conference paper required under **CUL-11**.~~

## **CUL-12 TREATMENT OF SIGNIFICANT AND UNIQUE SITES, AND HUMAN REMAINS**

Should the above procedures result in the determination that sites or portions of sites that will be directly impacted by the Project contain subsurface deposits and are significant or unique, or if human remains or other artifacts deemed by Native American monitors or consultants to be of a sensitive religious nature are identified at any stage during construction or development, a mitigation monitoring treatment plan will be developed. (This may be included in the CRMMP as a contingency measure). It shall include, at a minimum, the following:

1. If a site or portion of a site that will be impacted by the project is determined significant or unique, and if the only identified significance value of that site is its scientific research importance, a Phase III Data Recovery plan will be developed, approved and implemented. This will meet the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation*, and will comply with standard regional archaeological practices, including the use of accepted sampling and data collection techniques, as well as regional analytical approaches and typological schemes. This plan will be developed to address the regional research problems specified in the CRMMP. Fieldwork will include, at a minimum, the hand excavation of a sufficient number of one by one meter pits, excavated following the general procedures specified in **CUL-11**, to ensure that a scientifically representative sample of the site's artifact assemblage, and the spatial variability of artifact associations, has been obtained. All identified features, with the exception of human remains and any other remains sensitive to Native American religious concerns, will be fully excavated. Analysis, reporting and verification standards will follow the general requirements outlined in these Conditions of Certification.

2. Should a significant buried subsurface deposit, overlain by archaeologically sterile soil, be identified during the test phase of **CUL-11**, data recovery may include the mechanical stripping of the sterile soil, to within no more than 20 cm of the top of the

feature. All excavation below that depth will be conducted by hand, using the controls and collection techniques specified in CUL-10 and -11.

3. If a unique site is identified, as defined by CEQA, and if its significance value is its scientific research importance, a Phase III Data Recovery plan will be developed, approved and implemented. This will meet the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation*, and will comply with standard archaeological practices, including the use of widely accepted sampling and data collection techniques, as well as analytical approaches and typological schemes, that are specific to the research qualities that make the site unique. For example, a Paleoindian site, dating before 10,000 years B.P., may be considered unique, and field techniques and analytical approaches for such a site shall be tailored to meet the standards currently utilized by researchers nationally to excavate, analyze and report on such sites.

4. Because unique sites, as defined by CEQA, have the potential to address scientific problems that are of widespread interest to the general public, the Phase III Data Recovery plan will include a program for public outreach and education, and this plan shall be implemented during and/or after the data recovery.

5. In the event of the discovery of human remains or other artifacts or features of religious or ceremonial importance to Native Americans, any archaeological excavation or construction grading will immediately be halted, Native American consultation will occur, and the procedures specified by the Native American Graves Protection and Repatriation Act (NAGPRA) will be followed. The applicant shall agree to abide by the recommendations of the California Native American Heritage Commission-designated Most Likely Descendent concerning the treatment of any such remains. These may include removal and repatriation, reburial elsewhere within the project vicinity, or preservation in place.

6. Should a site be determined to have associative values to the Native American community, a mitigation plan shall be developed that will identify these specific values, outline a consultation procedure with the Native American community that will result in the identification of appropriate mitigation measures, and that will implement such measures, once identified.

### **III. WASTE MANAGEMENT**

#### **A. Recommended Changes to the Text of the PMPD**

##### **1. Changes to pp. 8-9, "Whether the projected annual amount of HTF-contaminated soil is underestimated"**

The PMPD incorrectly attempts to equate gallons of spilled HTF with cubic yards of HTF-contaminated soil. Specifically, the PMPD states

...Thus, most of the spills at the SEGS facilities over the last 20 years were substantially less than one cubic yard. The worst spill in the operation history of SEGS amounted to 30,000 gallons (about 150 cubic yards) of HTF on July 27, 2007 (Exh. 517, p. 2; 520). The second largest spill occurred eight years before that on May 22, 1999 which amounted to 21,000 (about 104 cubic yards). (Ex. 520) ...

...Staff accepted Applicant's estimated annual average of 750 cubic yards of spilled HTF which, we officially note, is equal to 151,000 gallons. (Ex. 400, pp. C.3-14 through C.3-15). This amount is greater than the sum of all spilled HTF over the lifetime of SEGS, as contained in the reports submitted by CURE. We find that Staff's analysis based upon an estimated 750 cubic yards of contaminated soil per year is an adequate baseline.

(PMPD, Waste Management, pp. 8-9.) The PMPD's assumptions and calculations are incorrect and unsupported. There is nothing in the record that states that there is a one-to-one correlation between spilled HTF and HTF-contaminated soil. On the contrary, the record shows that a 30,000-gallon HTF spill (which, according to the PMPD is equal to 150 cubic yards) produced 6,558 cubic yards of HTF-contaminated soil (Exh. 517, p. 2; Exh. 520.) The PMPD's analysis is unsupported. Thus, CURE recommends striking the two paragraphs above.

~~...Thus, most of the spills at the SEGS facilities over the last 20 years were substantially less than one cubic yard. The worst spill in the operation history of SEGS amounted to 30,000 gallons (about 150 cubic yards) of HTF on July 27, 2007 (Exh. 517, p. 2; 520). The second largest spill occurred eight years before that on May 22, 1999 which amounted to 21,000 (about 104 cubic yards). (Ex. 520)...~~

~~...Staff accepted Applicant's estimated annual average of 750 cubic yards of spilled HTF which, we officially note, is equal to 151,000 gallons. (Ex. 400, pp. C.3-14 through C.3-15). This amount is greater than the sum of all spilled HTF over the lifetime of SEGS, as contained in the reports submitted by CURE. We find that Staff's analysis based upon an estimated 750 cubic yards of contaminated soil per year is an adequate baseline.~~

## **2. Changes to pp. 9-10, "Whether Staff failed to analyze HTF waste in both liquid form and solid ('free-standing') form:**

The PMPD states that,

CURE argues for separate analysis of spilled solid 'free standing' HTF apart from the analysis of spilled HTF in its liquid state, claiming, without citation to the record, that the two are 'different in composition.' (CURE Op. Brief, p. 13). We see no evidence of a change in the composition of spilled Therminol VP1 between its liquid and solid state

and

in the absence of evidence on point, we can assume that the two forms of HTF are the same composition. We see no reason to separately analyze spilled liquid HTF and spilled solid HTF.”

(PMPD, Waste Management, p. 10.)

The PMPD ignores the fact that, by definition, a “liquid” is different from a “solid.” According to Merriam-Webster, “liquid” is defined as “a fluid (as water) that has no independent shape but has a definite volume and does not expand indefinitely and that is only slightly compressible,” and “solid” is defined as “a substance that does not flow perceptibly under moderate stress, has a definite capacity for resisting forces (as compression or tension) which tend to deform it, and under ordinary conditions retains a definite size and shape.”

Citing to the Revised Staff Assessment, CURE explained in its brief that HTF may not remain liquid when spilled because at temperatures below 54 degrees, HTF crystallizes. (CURE Opening Brief, p. 13 (citing Exh. 400, p. C.9-54.) Also, as explained by CURE, spilled liquid HTF presents completely different potential impacts to the environment and therefore is regulated differently by the State of California. (Health and Safety Code § 25203, 25113(a), 25123.3(a)(2), (b).) The record shows that at the SEGS facilities, when spilled, HTF forms wax-like piles that are scooped up or vacuumed. (Exh. 517, p. 3.) In some instances, these piles may remain on the soil for days. (Exh. 520.)

If the Commission wants to proceed without analyzing impacts from solid HTF that may remain on the ground for days, the Commission should not do so with its eyes closed. Thus, CURE proposes the following correction to the PMPD:

~~CURE argues for separate analysis of spilled solid ‘free standing’ HTF apart from the analysis of spilled HTF in its liquid state, claiming, without citation to the record, that the two are ‘different in composition.’ (CURE Op. Brief, p. 13). HTF may not remain liquid when spilled because at temperatures below 54 degrees, HTF crystallizes. CURE submitted evidence that at the SEGS facilities, when spilled, HTF forms wax-like piles that are scooped up or vacuumed. (Exh. 517, p. 3.) In some instances, these piles may remain on the soil for days. (Exh. 520.) We see no evidence of a change in the composition of spilled Therminol VP1 between its liquid and solid state. Logic would dictate that it would be easier to contain spilled HTF in its solid form, thereby posing a lesser risk of impact than liquid HTF. Liquid and solid HTF are retrieved differently. In addition, liquid and solid HTF are regulated differently by the State of California. (Health and Safety Code §§ 25203, 25113(a), 25123.3(a)(2), (b).) in the in the absence of evidence~~

~~on point, we can assume that the two forms of HTF are the same composition. We see no reason to separately analyze spilled liquid HTF and spilled solid HTF.~~

### **3. Changes to pp. 10-11, “Whether Staff adequately analyzed impacts from benzene contained in HTF”**

The PMPD states that issues raised by CURE regarding worker exposure to benzene are covered in Waste Management and Public Health and Safety sections. (PMPD, Worker Safety, p. 4.) However, the Public Health and Safety section and the Waste Management sections of the PMPD only address toxic emissions of benzene in the air; the sections do not address benzene in soil or groundwater. (PMPD, Public Health and Safety, pp. 5-6; PMPD, Waste Management, pp. 10-11.) Therefore, CURE recommends the following changes to the PMPD:

CURE argues that significant impacts to workers’ health, soil, and groundwater from benzene as a degradation product of spilled HTF were not analyzed. (CURE Op. Brief, pp. 14-15.)

The presence of benzene, a known carcinogen, in the air was analyzed in the Public Health and Safety Section of the Revised Staff Assessment (RSA) (Ex. 400, pp. C.5-14-C.5-18). The record indicates that benzene occurs as a decomposition product of HTF in “trace” amounts; less than five percent. Staff used an extremely conservative scenario to analyze potential health impacts from carcinogens in the air. As **Public Health Table 3** shows, both acute and chronic hazard indices are less than the significance level of 1.0, and cancer risk is less than the significance level of 10 in 1,000,000, indicating that no cancer or short- or long-term adverse health effects are expected from exposure to benzene in the air. (Ex. 400, p. C.5-14.)

Staff’s expert testified that worker safety conditions will require the Applicant to conduct certain measurements of benzene in the air consistent with CalOSHA regulations. He also testified that there a number of LORS that would require airborne testing when working around benzene to ensure that exposure remains below permissible limits (7/12/10 RT 366:2-23). (See Conditions of Certification **AQ-10** through **-13**) and groundwater or soil (Condition of Certification **SOIL&WATER-6**). We are satisfied that Staff adequately analyzed impacts from benzene contained in HTF in the air (see **Public Health and Safety** section of this Decision).

### **4. Changes to pp. 11-12, “Whether the handling of HTF waste as conditioned in WASTE-10 mitigates impacts and complies with LORS”**

The PMPD does not address whether the Project’s proposal to *stage* contaminated soil that contains HTF on plastic sheeting in the LTU complies with

Section 25123.3(a)(2) of the Health and Safety Code, an issue on which CURE provided considerable testimony and briefing.

The facts are undisputed. Spills of HTF “will be moved to a staging area in the LTU where it will be placed on plastic sheeting pending receipt of analytical results and characterization of the waste material.” (Exh. 1, Appendix H, p. 21.) The staging area “is an integral part of” the LTU. (July 21, 2010 Tr., p. 342.) The LTU does not incorporate a liner containment system and will be constructed with a prepared base consisting of 2 feet of compacted, low permeability, lime-treated material. (Exh. 400, Soil & Water, Appendix B, pp. 15-16.) In 2007, a spill at a SEGS facility resulted in 6,408 cubic yards of contaminated soil that, after being temporarily stored onsite, had to be transported to an approved disposal facility. (Exh. 520.)

The law is also clear. Section 25123.3 of the California Health and Safety Code sets forth the requirements for temporarily staging hazardous waste. Temporary waste staging is appropriate for hazardous waste only if:

- The waste is non-RCRA contaminated soil.
- The hazardous waste being accumulated does not contain free liquids.
- The hazardous waste is accumulated on an impermeable surface, such as high density polyethylene (HDPE) of at least 20 mills that is supported by a foundation, or high density polyethylene of at least 60 mills that is not supported by a foundation, among other requirements.
- Controls are provided for windblown dispersion and precipitation runoff and run-on and any stormwater permit requirements issued by a regional water quality control board.
- The accumulation site must be inspected weekly and after storms to ensure that the controls for windblown dispersion and precipitation runoff and run-on are functioning properly.
- After final offsite transportation, the accumulation site is inspected for contamination and remediated as necessary.
- The site is certified by a registered engineer for compliance with these standards.

(Health and Safety Code § 25123.3(a)(2), (b).) If any of the requirements are not met, then the Project must be regulated as a hazardous waste storage facility under Health and Safety Code Section 25200 et seq. Thus, CURE recommends the following clarifications to **WASTE-10**:

**WASTE-10:** The project owner shall submit to the CPM and DTSC for approval the applicant’s assessment of whether the HTF contaminated soil is considered hazardous or non-hazardous under state regulations. The land treatment unit (LTU) shall contain a temporary staging area in compliance with Health and Safety Code Section 25123.3. HTF contaminated soil that exceeds the

hazardous waste levels must be disposed of in accordance with California Health and Safety Code (HSC) Section 25203. HTF-contaminated soil that does not exceed the hazardous waste levels may be discharged into the land treatment unit (LTU). For discharges into the LTU, the project owner shall comply with the Waste Discharge Requirements contained in the Soil & Water Resources section of this document.

The project owner shall document all releases and spills of HTF as described in Condition of Certification WASTE-11 and report only those that are 42 gallons or more, the CERCLA reportable quantity. Cleanup and temporary staging of HTF-contaminated soils shall be conducted in accordance with the approved Operation Waste Management Plan required in Condition of Certification of WASTE-9. The project owner shall sample HTF-contaminated soil in the temporary staging area in accordance with the United States Environmental Protection Agency's (USEPA) current version of "Test Methods for Evaluating Solid Waste" (SW-846). Samples shall be analyzed in accordance with USEPA Method 8015 or other method to be reviewed and approved by DTSC and the CPM.

With CURE's proposed corrections, the PMPD's conclusions will remain unchanged, but the findings underlying the PMPD's conclusions will be consistent with the record in this proceeding and the conditions will ensure compliance with LORS.

#### IV. TRANSMISSION SYSTEM ENGINEERING

The PMPD states that it is speculative to identify downstream facilities required for the Project because the Transition Cluster Phase II Interconnection Study Report ("Phase II Study") identified downstream transmission facilities required for a cluster of projects, and that the Commission need not analyze downstream facilities because the CPUC would conduct the analyses. (PMPD, TSE, p. 7.) However, the PMPD recognizes that

Staff's expert testified that in order to maintain system reliability, mitigation in the form of upgrades to or replacement of 16 circuit breakers would be necessary. Other mitigation would include looping the Colorado River substation connection to the Devers substation number two 500-kV transmission line into the Red Bluff substation. The record indicates that the as yet unbuilt Colorado River substation will have to be expanded but ***the expansion has been fully analyzed for environmental impacts in Exhibit 403***. Finally, the Phase II Study requires upgrades to four 230-kV Lines that come out of the Devers substation to the west. (Ex. 400, p. D.5-7; 7/21/10 RT 43:12-45:18.) However, the ***Staff witness made clear in his testimony that these four 230 kV lines were upgrades not directly related to the GSEP interconnection.*** (7.21.10 RT 45.)

(PMPD, TSE, p. 5 (emphasis added).) Certainly, if Staff was able to point out that some upgrades identified in the Phase II Study are not required for the Project, it is not speculative to identify which downstream facilities are required for the Project. Moreover, the record shows that Staff's expert witness testified that he did not have any information to conclude that the Project would not require any of the other downstream facilities identified in the Phase II Study. (July 21, 2010 Tr., pp. 46-47.) Thus, the record in this case shows that Staff was able to identify those downstream facilities that are (or are not) necessary for the Project—it is not speculative.

Further, Staff analyzed one of the identified upgrades, the Colorado River Substation expansion. Thus, the PMPD's remark that the Commission need not analyze downstream transmission facilities because it is speculative to identify downstream facilities required for the Project and because the CPUC will conduct the analyses, is misleading. It is unclear why Staff chose to analyze only the Colorado River Substation expansion when the Project would require "looping the Colorado River substation connection to the Devers substation...into the Red Bluff substation," when the proposed Red Bluff Substation has yet to be analyzed. In any event, just as Staff analyzed the Colorado River Substation expansion, the other downstream facilities identified in the Phase II Study must be analyzed.

Finally, the PMPD contradicts the Commission's conclusion for the Blythe Solar Power Project ("BSPP"). The Phase II Study included the BSPP. According to the PMPD for BSPP,

The Phase II Study identified six mitigation measures required to allow for the reliable operation and delivery of power from the BSPP. Where the mitigation had the potential for significant environmental impacts staff has provided an environmental analysis in Appendix A and Appendix B of Staff's Transmission System Engineering Testimony, Ex. 217. Facilities identified in Appendices A and B may require license or approval from the CPUC and/or the Bureau of Land Management.<sup>5</sup>

Accordingly, CURE recommends the following changes to the PMPD.

**A. Changes to p. 5, first paragraph:**

The Phase II Study, which was received into evidence as Exhibit 405, found that the GSEP and the remaining projects in its cluster will require the construction or upgrade of transmission facilities in order to maintain grid reliability. The Phase II Study identified six mitigation measures required to allow for the reliable operation and delivery of power from the GSEP. However, those transmission facilities will require a

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<sup>5</sup> PMPD for Blythe Solar Power Project, p. 92.

license from the California Public Utilities Commission or other permitting authority. Where the mitigation has the potential for significant environmental impacts, environmental analysis is required. Staff's expert testified that in order to maintain system reliability, mitigation in the form of upgrades to or replacement of 16 circuit breakers would be necessary. Other mitigation would include looping the Colorado River substation connection to the Devers substation number two 500-kV transmission line into the proposed Red Bluff substation. The record indicates that the as yet unbuilt Colorado River substation will have to be expanded but the expansion has been fully analyzed for environmental impacts in Exhibit 403. Finally, the Phase II Study requires upgrades to four 230-kV lines that come out of the Devers substation to the west. (Ex. 400, p. D.5-7; 7/21/10 RT 43:12-45:18.) However, the Staff witness made clear in his testimony that these four 230 kV lines were upgrades not directly related to the GSEP interconnection. (7/21/10 RT 45.) Staff did not analyze the environmental impacts of the proposed Red Bluff substation, or any of the other upgrades identified in the Phase II Study.

#### **B. Changes to p. 5, last paragraph to top of p. 6:**

CURE recommends deleting the paragraph in its entirety.

~~In its brief, CURE cites extensive case law concerning CEQA requirements for analysis of "the whole of the action" (CURE's 2<sup>nd</sup> Reply Brief pp. 12-14.) However, we are not persuaded by CURE's arguments for several reasons. First, the Phase II Study identifies upgrades needed for a cluster of projects. The study does not, however, identify any project-specific upgrades that are required only for the interconnection of the GSEP. Second, due to the "cluster" approach of the study, the impacts identified in the Phase II Study are still speculative, although more refined than those which appeared in the Phase I Study. It is not yet known if all of the projects analyzed in the Phase II Study will actually interconnect to the system, or whether some of them will fail to execute a Large Generator Interconnection Agreement (LGIA). Until all projects in the cluster complete their respective LPIAs, it is unclear what upgrades must be made. Third, if transmission upgrades are required after all LGIAs in the cluster are executed, then any necessary permitting and CEQA review will be carried out by the CPUC.~~

#### **C. Changes to Findings of Fact**

- ~~3. It is speculative at this time to identify all transmission system upgrades which may be related to the interconnection of the GSEP and other power plants. The Phase II Study identified six mitigation measures required to allow for the reliable operation and delivery of power from the GSEP.~~
- ~~4. If transmission system upgrades are required for the interconnection of the GSEP and other power plants, any necessary permitting under CEQA review will be performed by the CPUC.~~

## V. BIOLOGICAL RESOURCES

The PMPD concludes that BIO-19 would reduce the Project's impacts to special-status plants to less than significant levels. (PMPD, Biology, pp. 26, 47.) The PMPD fails to address CURE's extensive testimony and briefing on this issue.

CURE demonstrated that the record does not support a finding that BIO-19 would be feasible or effective in reducing the Project's impacts to special-status plants to less than significant levels. First, CURE pointed out that Staff admitted that

Avoidance, minimization and compensation measures such as those described in staff's proposed Conditions of Certification BIO-19 ***could potentially*** reduce these impacts to less than significant levels. However, implementation of the avoidance measures described in these conditions of certification would ***require site specific information about the location of proposed project features in relation to sensitive plant species***. Staff does not currently have the project-specific information and therefore ***cannot address the feasibility of implementing effective avoidance measures as a means of reducing significant impacts***.

(Exh. 400, p. C.2-126 (emphasis added).)

Further, CURE showed that BIO-19 does not commit the Applicant to do anything to reduce the Project's impacts on special-status plants to less than significant levels. First, BIO-19 does not require the Applicant to conduct late-season surveys at a time when special-status plants would be identified. (Exh. 445, p. 4.) Second, BIO-19 does not require avoidance of rare plants if a species is located within the permanent Project disturbance area, if avoidance would cause disturbance in areas not previously surveyed, or if avoidance would create "other restrictions." (Exh. 445, pp. 6-8.) Third, substantial evidence shows that Staff's proposed mitigation to acquire compensation lands or provide restoration/enhancement of special plants is not feasible. (July 12, 2010 Tr., pp. 182-184, 193.) Finally, there is no evidence in the record that optional funding or implementing a future study would mitigate the Project's significant impacts to special-status plants. In short, the record clearly shows that BIO-19 does not provide feasible, effective mitigation. The PMPD must acknowledge this fact.

Accordingly, CURE proposes the following changes to the PMPD.

### A. Changes to p. 25:

eriastrum has a global distribution restricted to the southeast corner of California, and it is known from only 14 documented locations, several of which are historic records that have not been verified. The evidence concludes that the Project's direct, indirect, and

cumulative impacts to Harwood's eriastrum and Harwood's milk-vetch are significant, but impacts to ribbed cryptantha are not. While the direct effects of the Project on desert unicorn are minor, the impacts of all future projects in the NECO planning area are cumulatively considerable. The record shows that the avoidance, minimization and compensation measures described in Condition of Certification **BIO-19** (Special-Status Plant Mitigation) will not minimize the impacts to Harwood's eriastrum and Harwood's milk-vetch to a level less than significant, and will not reduce the Project's contribution to cumulative effects to special-status plants to a level less than considerable. (Ex. 400, p. C.2-2.)

Abrams's spurge, flat-seeded spurge, lobed ground cherry have moderate to high potential to occur within the GSEP site. They were not detected during spring 2009 and 2010 botanical surveys but may have been missed because they are late season plants that cannot be detected during routing spring surveys. Project construction and operation could result in direct and indirect impacts to late season special-status plants, if present, and impacts to these and other species may be significant. Staff argues that **BIO-19** includes a requirement to conduct late-season surveys in summer-fall 2010, and Specific triggers and detailed performance standards for mitigation of impacts are included in BIO-19 to ensure that impacts to any special-status plants found during the late season surveys are mitigated to a level less than significant. (Ex. 400, pp. C.2-2 to C.2-3.) However, the evidence shows that BIO-19 does not provide feasible, effective mitigation for the Project's significant impacts to special-status plants. First, BIO-19 does not require the Applicant to conduct late-season surveys at a time when special-status plants would be identified. (Exh. 445, p. 4.) Second, BIO-19 does not require avoidance of rare plants if a species is located within the permanent Project disturbance area, if avoidance would cause disturbance in areas not previously surveys, or if avoidance would create "other restrictions." (Exh. 445, pp. 6-8.) Third, substantial evidence shows that Staff's proposed mitigation to acquire compensation lands or provide restoration/enhancement of special plants is not feasible. (July 12, 2010 Tr., pp. 182-184, 193.) Finally, there is no evidence in the record that optional funding or implementing a future study would mitigate the Project's significant impacts to special-status plants. Thus, the Project's impacts to special-status plants remain significant and unmitigated.

## **B. Changes to Findings of Fact**

20. Condition of Certification **BIO-19** will not reduce potential impacts to special-status plants to less-than-significant levels.

## **C. Changes to Conclusions of Law**

1. The project owner will implement appropriate Even with the implementation of proposed avoidance and mitigation measures to prevent significant adverse impacts to all sensitive species special-status plants will persist.

2. ~~Even W~~with ~~the~~ implementation of the mitigation measures described in the evidentiary record and incorporated into the Conditions of Certification below, as well as those in other portions of this Decision, the GSEP will ~~not~~ result in significant direct, ~~indirect, or and~~ cumulative impacts to ~~biological resources special-status plants~~.

Dated: September 20, 2010

Respectfully submitted,

\_\_\_\_\_  
/s/

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## PROOF OF SERVICE

I, Valerie Stevenson, declare that on September 20, 2010 I served and filed copies of the attached **CALIFORNIA UNIONS FOR RELIABLE ENERGY'S RECOMMENDED CHANGES TO PMPD**. 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/genesis](http://www.energy.ca.gov/sitingcases/genesis). 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 electronically to all email addresses on the Proof of Service list and by either depositing in the U.S. Mail at South San Francisco, CA with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list to those addresses NOT marked "email preferred," via personal service or via overnight mail as indicated.

I declare under penalty of perjury that the foregoing is true and correct. Executed at South San Francisco, CA on September 20, 2010.

\_\_\_\_\_/s/  
Valerie Stevenson

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