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March 9, 2010

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08-AFC-9
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CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-9
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Subject: **City of Palmdale Hybrid Power Project – Docket 08-AFC-9**
Comments on Volume 2 of the PHPP Preliminary Staff Assessment

Dear Sir/Madam:

Pursuant to California Code of Regulations, title 20, Sections 1209, 1209.5, and 1210, enclosed herewith for filing please find the City of Palmdale's Comments on Volume 2 of the Preliminary Staff Assessment for the Palmdale Hybrid Power Project.

Please note that the enclosed submittal was filed today via electronic mail to your attention and to all parties on the attached proof of service list.

Yours sincerely,

Sara J. Head
Project Manager
Sara.Head@AECOM.com

Enclosure

cc: 08-AFC-9 Proof of Service List (w/encl., via email and US Mail)

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:

City of Palmdale's	)	
Application for Certification of the	)	Docket No. 08-AFC-9
Palmdale Hybrid Power Project	)	
	)	

CITY OF PALMDALE'S COMMENTS ON VOLUME 2 OF THE PRELIMINARY STAFF ASSESSMENT FOR THE PALMDALE HYBRID POWER PROJECT

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March 8, 2010

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:

City of Palmdale's	)	
Application for Certification of the	)	Docket No. 08-AFC-9
Palmdale Hybrid Power Project	)	
_____	)	

CITY OF PALMDALE'S COMMENTS ON VOLUME 2 OF THE PRELIMINARY STAFF ASSESSMENT FOR THE PALMDALE HYBRID POWER PROJECT

I. INTRODUCTION

Volume 1 of the Palmdale Hybrid Power Project (PHPP) Preliminary Staff Assessment (PSA) was issued on December 23, 2009 and Volume 2 was issued on February 9, 2010 by the California Energy Commission (CEC). The Applicant provided a preliminary set of comments on the Volume 1 PSA to the CEC on February 8, 2010. A Workshop was held to discuss the PSA (Volumes 1 and 2) on February 11, 2010.

Volume 2 of the PSA contains the Executive Summary and Project Description, and an Environmental Assessment which includes discussion on and proposed conditions of certification for the following topics:

- Air Quality
- Biological Resources
- Cultural Resources
- Land Use
- Soil and Water Resources
- Traffic and Transportation
- Visual Resources

The Applicant has reviewed Volume 2 of the PSA and submits comments on the following topics at this time:

- Executive Summary and Project Description
- Air Quality,

- Biological Resources,
- Cultural Resources, and
- Soil & Water Resources.

Comments on Land Use, Traffic & Transportation and Visual Resources are expected to be submitted the week of March 15, 2010 once the Applicant has completed gathering the necessary data as discussed below. During the February 11 Workshop, Staff agreed with many of the changes requested by the Applicant related to Volume 1 of the PSA. In a couple of cases (i.e., HAZ-10 and PAL-4), it was agreed that slightly different wording to the conditions of certification would be acceptable, and in those cases, revised versions will also be provided in the submittal next week. This next submittal related to Volume 1 of the PSA will also include additional information on Transmission System Engineering (TSE). The Applicant has been in communication with Southern California Edison (SCE) and expects to provide additional clarifications regarding TSE the week of March 15, 2010.

Comments on Volume 2 of the PSA appear below in the same order as the subjects are discussed in the PSA. For comments dealing with Conditions of Certification, we first provide our comment and then our proposed revisions in strikeout or underline format.

II. COMMENTS ON PSA VOLUME 2

A. EXECUTIVE SUMMARY and PROJECT DESCRIPTION

The Executive Summary and Project Description will require some updating based on the comments made below to the individual resource topics, as well as the comments made on Volume 1 of the PSA. In addition, we note the following minor editorial comments:

- Page 1-3 (line 6) of the Executive Summary refers to the regulations of the Mojave Desert Air Quality Management District, which should be revised to reference the Antelope Valley Air Quality Management District.
- The transmission system is described on page 3 of the Project Description. As noted above, the Applicant is in communication with SCE, and expects to provide additional comments related to the description of the transmission lines in our submittal next week.
- In the comments submitted on Volume 1, a condition of certification was proposed to address concerns of the California Department of Water Resources (DWR). During the Workshop, it was indicated that our proposed condition was under review by DWR. The Applicant expects to provide a revised version of the proposed condition that addresses DWR's input.
- Page 4 of the Project Description, Wastewater Discharge, indicates that the PHPP will connect via a new 1.0 mile sanitary waste water pipeline to the existing sewer system just north of the project. This connection point was changed as described on page PD-4

of the revised Project Description submitted on March 2, 2009, and now will connect to an existing sewer system just east of the project along Columbia Way (E. Avenue M).

B. AIR QUALITY

The following comments on the air quality section of the PSA are provided relative to the discussions at the PSA Workshop held on February 11, 2010.

1. General Comments

a. Term Sheet for ERCs Will Be Provided Under Confidential Cover

As the Applicant and Staff discussed at the PSA Workshop, a Term Sheet for the purchase of VOC and NOx Emissions Reduction Credits (ERCs) from the San Joaquin Valley Air Pollution Control District (SJVAPCD) was under review by the City of Palmdale. This Term Sheet is being provided separately under confidential cover. Once the agreement is finalized, the source of the ERCs will be provided.

The Applicant and Staff also discussed that the Applicant cannot seek interbasin transfer approval by the SJVAPCD and AVAQMD Boards until at or near the actual transfer of ERC offsets. The Applicant would not expect this procedure to delay evaluation of compliance with LORS because the need for Board approval can be addressed through a condition of certification (COC).

b. General Comments on road paving ERCs and PM2.5 emissions

The PSA discussion raised concerns related to the basis of use of road paving ERCs in the AVAQMD. The challenge to the MDAQMD Rule 1406 is not considered relevant, as the District and the Applicant are not relying on the MDAQMD rule as the authority for the issuance of ERCs, and instead are merely relying on the same protocol that is contained in that rule. Relevant AVAQMD rules are not currently being challenged nor are they subject to challenge. The recent decision by the Court of Appeals has nothing to do with the validity of the protocol, which is based on EPA AP-42 and other similar credit generation rules.

AVAQMD Rule 1304(D)(2)(c)(i) requires ARB approval of the calculation protocol. ARB was provided the opportunity to comment on both the PDOC and the revised PDOC and, as of this date, ARB has not provided comments. ARB Staff participated in the CEC PSA Workshop by phone and indicated ARB may prepare comments on the PDOC and/or the PSA, but did not identify any specific concerns with the Project.

The AFC indicated that the road paving would also be used to partially offset the PM2.5 emissions, but only to the extent that there will be reductions in this size category from the miles of roads needed to offset PM10. No additional roads are proposed to provide a total offset of PM2.5 emissions. PHPP PM2.5 emissions and PM2.5 precursor emissions of SOx will not cause a violation of the federal 24-hour PM2.5 or the state annual PM2.5 air quality standard.

Therefore, mitigation should not be required for PM2.5. For more discussion on the proposed mitigation, please see proposed revisions to AQ-SC-19 below.

2. Comment on AQ-SC-6

The NOx discussion on page 4.1-24 indicates that the construction impacts analysis for PHPP results in high impacts in the hours close to sunrise and sunset, and hence mitigation similar to the Victorville 2 (VV2) Hybrid Power Project is needed to reduce the impacts to less than significant. The COC proposed for PHPP is more restrictive than the one approved for VV2, and hence we are requesting that the COC be consistent with the VV2 requirement (AQ-SC6).

AQ-SC-6 Except for minor activities such as cement pours, construction activities shall be limited to the hours between one hour after sunrise and one hour before sunset from July 15 through August 30. At other times, construction activities shall be limited to the hours between one hour after sunrise and thirty (30) minutes before sunset.

Verification: The project owner shall include in the MCR a summary of all actions taken to maintain compliance with this condition.

3. Comments on AQ-SC-9 and AQ-SC-10

At the PSA Workshop, Applicant and Staff discussed that the PHPP heat transfer fluid (HTF) system will not involve venting to atmosphere during normal operations. The HTF ullage system proposed for PHPP is of a different design from other solar energy projects currently under review by the CEC and will be a closed loop system rather than venting to atmosphere during normal operations. Applicant believes a vapor control system (AQ-SC-9) is not needed and a 99% control efficiency (AQ-SC-10) is not applicable. Based on informal communications between the AVAQMD staff and Applicant, AVAQMD staff indicated that an application for a control system, and hence AQ-SC-9 and AQ-SC-10, are not needed.

Because the HTF ullage system is a different design from other parabolic trough systems, a more detailed description of the design is provided herein. The heat transfer fluid (HTF) process equipment located at the power block will consist of two independent systems: the expansion tanks and the ullage system. While the ullage system and HTF expansion tanks are hard-piped together, they are two separate subsystems of the HTF thermal process.

HTF is a mixture of diphenyl oxide and biphenyl which degrades over time into low and high boiling products which must be separated and eliminated from the cycle via the ullage system. The low boiling degradation products (volatile organic carbons [VOCs]) are a mixture of benzene, toluene, xylene and phenol with the primary component being benzene. The low boiling degradation products affect the thermal efficiency of the HTF and increase the vapor pressure. The high boiling products are basically a heavy sludge.

The ullage system proposed for PHPP will be a multiple-stage flash distillation purification system with vapor condensation for purification of the HTF. The ullage system will be comprised of expansion tanks, nitrogen condensing tanks and HTF storage tanks, as well as associated valves, flanges, pumps and compressors. In this type of system, hot liquid HTF from the solar field is flashed into the vapor phase in the ullage system. The resulting vapor consists of HTF, low boiling contaminants (i.e., VOC) and nitrogen. The high boiling point contaminants do not flash to vapor and are removed from the ullage system by a vacuum truck as sludge. The HTF vapor is condensed using water- or air-cooled condensers. The resulting liquid HTF is recirculated back to the expansion tanks for reuse. Nitrogen processed through the ullage system is captured, compressed, and stored in a pressure vessel for reuse as inert gas for blanketing the expansion tanks. Low-boiling point VOC would be present in the ullage system in the vapor phase; the VOC vapors are compressed along with the nitrogen, and will be drained from the nitrogen pressure vessel as liquid. Under normal operating conditions the ullage system is closed with no emissions to atmosphere.

The HTF that is used for the daily operations is present in the HTF piping loop and in the expansion tanks. The remaining HTF will be stored at cooler temperatures and blanketed with nitrogen. As the HTF is heated and expands during the day, the expanded volume will move into the expansion tanks and the nitrogen will be compressed and pushed into the nitrogen condensing tank. At night when the HTF cools and contracts, the HTF will contract back into the piping and the nitrogen in the vapor space will expand into the expansion tanks.

The PHPP will also use a closed vapor system for the HTF expansion tanks. The HTF expansion tanks are blanketed with nitrogen gas to keep the headspace in the expansion tanks non-explosive. The nitrogen may become saturated with VOC as it is in contact with the HTF and volatile HTF breakdown products. At other solar thermal plants, when the HTF heats and expands, the nitrogen gas, which is potentially saturated with VOC, is vented through control equipment such as activated carbon. However, within the PHPP system, when the HTF heats and expands, the VOC-saturated nitrogen will be captured, compressed, and stored in a small pressurized tank. The nitrogen is recycled to the process and the VOCs are drained as liquid from the pressure vessel. When the HTF cools and contracts, the nitrogen is replaced from the pressurized tank.

This design serves to conserve nitrogen and eliminates VOC emissions from the expansion tanks due to normal operations. The primary motivation for a closed ullage system is the commercial cost to replace nitrogen losses during normal operation. Since both the ullage system and expansion tanks have closed vapor systems, no emissions are anticipated during normal operations. Note that the expansion tanks are pressure vessels that are equipped with pressure relief valves (PRVs) for safety purposes. If an overpressure incident were to occur, the PRVs would open to relieve pressure and emissions could occur. This is expected to occur only during emergency situations.

Therefore, we request that condition AQ-SC-9 and AQ-SC-10 be removed.

~~**AQ-SC-9** Each HTF tank shall be connected to a volatile organic compound (VOC) vapor control system.~~

~~**Verification:** The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.~~

~~**AQ-SC-10** HTF expansion vessel shall be gas tight and vent to vapor control system with a 99% control efficiency.~~

~~**Verification:** The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.~~

4. Comments on AQ-SC-11, AQ-SC-14, AQ-SC-15

At the PSA Workshop, Applicant and Staff discussed that a leak detection and repair (LDAR) program for the valves and connections in the solar field do not appear necessary for the PHPP. Therminol® VP1 HTF is a low volatility VOC and emissions are expected to be minimal from the solar field. We have approximated worst case emissions based on a ratio of emissions from one of the larger solar energy projects that will also use parabolic trough mirrors but will not have a closed loop system. Based on a ratio with very conservative Kern County APCD emissions calculations, fugitive VOC emissions from PHPP's would be less than 1.7 tons per year (tpy); using Applicant-proposed fugitive VOC emission factors results in less than 0.2 tpy of VOC. Therminol® VP1 HTF is an expensive commodity so PHPP will minimize leakage regardless of a LDAR program, and hence we believe the lower estimate is more accurate.

The daily inspections of pumps, compressors and PRVs, as required by AQ-SC-11 Part A, are sufficient to ensure that major components of the system are not leaking. Recording of the amount of HTF that is replaced will provide sufficient information on how much of the material is lost due to leaks. A refinery-type LDAR program is expensive to implement, and would cause emissions due to the need to use a vehicle and manlift to reach many of the components. Therefore, an expensive control program to prevent these very low emission levels in the solar field appears to not be warranted for the PHPP. We request that AQ-SC-11 Parts B, C, D, and F, as well as AQ-SC-14 and AQ-SC-15 be removed.

AQ-SC-11 The project owner shall establish an inspection and maintenance program to determine, repair, and long leaks in HTF piping network and expansion tanks. Inspection and maintenance program and documentation shall be available to District staff upon request.

A. All pumps, compressors and pressure relief devices (pressure relief valves or rupture disks) shall be electronically, audio, or visually inspected once every operating period.

~~B. All accessible valves, fittings, pressure relief devices (PRDs), hatches, pumps, compressors, etc. shall be inspected quarterly using a leak detection device such as a Foxboro OVA 108 calibrated for methane.~~

~~C. VOC leaks greater than 100-ppmv shall be tagged (with date and concentration) and repaired within seven calendar days of detection. D. VOC leaks greater than 10,000-ppmv shall be tagged and repaired within 24-hours of detection.~~

~~D. The project owner shall maintain a log of all VOC leaks exceeding 10,000-ppmv, including location, component type, and repair made.~~

B. The project owner shall maintain record of the amount of HTF replaced on a monthly basis for a period of five years.

~~Any detected leak exceeding 100-ppmv and not repaired in 7-days and 10,000-ppmv not repaired within 24-hours shall constitute a violation of the District's Authority to Construct (ATC)/Permit to Operate (PTO).~~

C. Pressure sensing equipment shall be installed that will be capable of sensing a major rupture or spill within the HTF network.

Verification: The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

~~**AQ-SC-14** Tank roof appurtenances shall not exhibit emissions exceeding 10,000-ppmv as methane measured with an instrument calibrated with methane and conducted in accordance with U.S. Method 21.~~

~~**Verification:** The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.~~

~~**AQ-SC-15** Each tank shall be maintained leak-free. A "leak" is defined as the dripping of liquid volatile organic compounds at a rate of three or more drops per minute, or vapor volatile organic compounds in excess of 10,000-ppm as equivalent methane as determined by EPA Test Method 21.~~

~~**Verification:** The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.~~

5. Comment on AQ-SC-16

At the PSA Workshop, Applicant and Staff discussed the following change to AQ-SC-16, which Staff agreed to in principle:

AQ-SC-16 Project owner shall provide District with total volume HTF required for solar power plant and annual volume of HTF replaced at the facility."

Verification: As part of the Annual Compliance Report the project owner shall include information on HTF total volume and annual usage rates to demonstrate compliance with this condition.

6. Comment on AQ-SC-18

At the PSA Workshop, Applicant and Staff discussed that AVAQMD offset rules should apply to ERCs obtained for the PHPP. Specifically, AVAQMD Rule 1305(C)(3) requires: "The ratio for offsets obtained from outside the District for any nonattainment air pollutant shall be equal to the offset ratio which would have applied had such offsets been obtained in the District." AVAQMD Rule 1305(C)(1) requires the offset ratio for NOx and VOC to be 1.3 to 1.0 since the project is located in a federal ozone non-attainment area. Staff agreed in principle to the applicability of AVAQMD rules for ERC offsets; provided, however, that the ERCs originated in the southern portion of the SJVAPCD. The Applicant's proposed SJVAPCD-based ERCs would be located in the southern portion of the SJVAPCD. Accordingly, we request the following changes:

AQ-SC-18 The project owner shall provide valid evidence that adequate emission reduction credits have been purchased prior to start of construction of the project. The project emissions of 115 and 40 tons per year of NOx and VOC, respectively, shall be offset at a ratio of 1.3 to one for ERC's within the MDAB or ~~areas~~ in the SJVAB ~~that are within 15 miles of the AVAQMD western boundary~~ (149.5 and 52 tons per year for NOx and VOC, respectively). ~~For ERC sources greater than 15 miles from the western portion of the AVQMD, an offset ratio of 1.5 to one shall be utilized, resulting in an ERC liability of 172.5 and 60 for NOx and VOC, respectively.~~

Verification: The project owner shall submit to the CPM a copy of all ERCs to be surrendered to the District at least 60 days prior to start construction.

7. Comments on AQ-SC-19

Since the project does not have a significant impact on PM2.5, mitigation is not required for PM2.5. In addition, to maintain consistency with the requirements for the VV2 Project, we request that the deadline for providing the list of candidate roads to be paved should be 60 days prior to start of construction, rather than one year.

AQ-SC-19 The project owner shall pave, with asphalt concrete that meets the current county road standards, unpaved local roads to provide emission reductions of 134 tons per year of ~~PM2.5~~PM10, prior to start construction of the project. Calculations of ~~PM2.5~~PM10 emission reduction credits shall be performed in accordance with Sections 13.2.1 and 13.2.2 of the U.S. EPA's AP-42 "Compilation of Air Pollutant

Emission Factors, Volume 1: Stationary Point and Area Sources," Fifth Edition~~, and PM2.5 portion shall be calculated as being equal to 10% of the total PM10 road dust emission reduction credits~~.

Verification: At least ~~one year~~60 days prior to start of construction, the project owner shall submit to the CPM~~,~~ and the District ~~and ARB~~, for approval, a list and pictures of candidate roads to be paved, their actual daily average traffic count including classifications of vehicles (ADT), and daily vehicle miles travel (DVMT), their actual road dust silt content, and calculations showing the appropriate amount of emissions reductions due to paving of each road segment. All paving of roads shall be complete at least 15 days prior to start of construction of the project.

8. Comments Regarding Timing of Conditions of Certification

At the PSA Workshop, Applicant and Staff discussed that Applicant would propose several changes to the timing requirements of the Conditions of Certifications based on practical limitations (e.g., when federal permits are issued) and experience with other projects, particularly Victorville 2. Accordingly, Applicant proposes the following changes:

a. AQT-3

The verification for AQT-3 requires that copies of the federal PSD and Acid Rain permits be provided to the CPM at least 90 days prior to the start of construction. The District will issue the Acid Rain permit as part of the Title V permit, which will not be issued until at least one year after the Project starts operation. In addition, Applicant cannot begin construction until it receives a PSD permit. Applicant should not be required to delay construction if the PSD permit has not been issued more than 90 days from when the construction is due to begin. Given the nature of the PSD and Acid Rain permits and how they will be issued, Applicant requests that the verification of AQT-3 be modified accordingly.

AQT-3 This equipment is subject to the Federal NSPS codified at 40 CFR Part 60, Subparts A (General Provisions) and KKKK (Standards of Performance for New Stationary Gas Turbines). This equipment is also subject to the Prevention of Significant Deterioration (40 CFR 51.166) and Federal Acid Rain (Title IV) programs. Compliance with all applicable provisions of these regulations is required.

Verification: ~~At least 90 days prior to construction of the project, t~~ The project owner shall provide the District, the ARB and the CEC CPM copies of the federal PSD and Acid Rain permits no later than 30 days after their issuance.

b. AQT-9, AQT-11, AQT-16, AQEG-5, AQEG-7, AQFS-5, and AQFS-7

The requirements in these COCs are standard and should not take a long time for the CPM to review and approve. Similar to other projects such as the VV2 Project, we request that the verification portion of the following conditions be revised to 60 days from 120 days:

- AQT-9
- AQT-11
- AQT-16
- AQEG-5
- AQEG-7
- AQFS-5
- AQFS-7

c. AQT-13

Condition AQT-13 requires 10 days notice but the verification has 7 days notice. We request that both the notice and verification should be 10 days.

C. BIOLOGICAL RESOURCES

1. General Comments

The CEC Staff member who prepared the Biological Resources section of the PSA was not able to attend the February 11, 2010 PSA Workshop. The CDFG Staff person participated by phone, and all of the issues identified in these comments were discussed at the Workshop. Because Staff was not available for this Workshop, it was agreed that a follow-up workshop would be scheduled. This follow-up Workshop is scheduled for March 16, 2010 in Palmdale, CA. The Applicant is providing comments on biological resources in this submittal, but we note that the requirements could change in response to discussions held with CEC, CDFG and others on the 16th. We also have questions and will seek additional clarification of some requirements, such as BIO-8, item 16 and BIO-11, item 2.b.

The following general comments are provided in response to concerns raised by CEC Staff in the Summary of Conclusions discussion of the PSA Biology section.

a. Timing of Rare Plant Surveys

The PSA indicates that Staff is concerned that the timing of the rare plant surveys in April-June may have missed the early blooming season in 2008. Plant species potentially occurring in the Project vicinity are included in the table below, along with justification for why they would have been detectable in April and/or unlikely to occur within the Project footprint. The focus of the surveys was List 1B and 2 species. As shown in the table, the only plant on this list with a booming season prior to April is the San Gabriel Manzanita (*Arctostaphylos gabrielensis*), which if present would have been detectable year round. For all species listed, historic records (*e.g.*, CNDDB) have not been recorded in the immediate vicinity of the Project footprint.

Species	Habitat preference	Bloom	Justification
San Gabriel Manzanita *Arctostaphylos gabrielensis*	Rocky outcrops in chaparral habitat. Known only from Mill Creek Summit divide in the San Gabriel Mountains.	Mar	Only known occurrence is over 6 miles south of Vincent substation. Even if present within Project area, year-round shrub would have been detectable.
Brown fox sedge *Carex vulpinoidea*	Marshes and swamps, riparian woodland.	May-Jun	No suitable microhabitat present within Project footprint. The small areas of riparian habitat present were thoroughly surveyed.
Mt. Gleason paintbrush *Castilleja gleasonii*	Occurs on open flats or slopes in granitic soil in chaparral, pinyon and juniper woodland, and lower montane coniferous forest. Restricted to the San Gabriel Mountains.	May-Jun	Unlikely in the San Gabriel foothills. Records are from Angeles National Forest: 8 miles southwest of Vincent substation and 6 miles south of transmission line Segment 2. 2008 surveys in the foothills were conducted in late April, so with good rains that year, may have been blooming early.
Kern Canyon clarkia *Clarkia xantiana* ssp. *Parviflora*	Often sandy, sometimes rocky, slopes, sometimes roadsides in chaparral, cismontane woodland, Great Basin scrub, and valley and foothill grassland.	May-Jun	CNPS List 4 species. Record is from 7 miles southeast of where transmission line Segments 1 and 2 meet.
Lemon lily *Lilium parryi*	Wet, mountainous terrain, generally in forested areas. On shady edges of streams, in open boggy meadows & seeps, lower montane coniferous forest, riparian forest, upper montane coniferous forest.	Jul-Aug	No suitable microhabitat present within Project footprint. Only occurs at elevations greater than 4,000 feet. Only an approx. 0.6 mile section along transmission line Segment 2 reaches 4,000+ feet. Record is 8 miles south of transmission line Segment 2.
California muhly *Muhlenbergia californica*	Usually found near streams or seeps in coastal sage scrub, chaparral, lower montane coniferous forest, and meadows.	Jun-Sep	CNPS List 4 species. Records are from 11 and 13 miles southeast of where transmission line Segments 1 and 2 meet.

Rock Creek broomrape *Orobanche valida* ssp. *Valida*	On slopes of loose decomposed granite; parasitic on various chaparral shrubs. Chaparral, pinyon and juniper woodland.	May-Sep	Record is from 10 miles southeast of where transmission line Segments 1 and 2 meet. Would have noted even if not blooming.
Greata's aster *Symphyotrichum greatae*	Mesic canyons in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and riparian woodland.	Jun-Oct	No suitable microhabitat present within Project footprint. Records are from 5 and 7 miles south of transmission line Segment 2, and in Acton, 5 miles west of Vincent substation.

b. Reference Site Visits

The PSA indicates a Staff concern that the Applicant conducted rare plant surveys without visiting the reference sites. Protocols in place at the time of the surveys (CDFG 1983, revised 2000; CNPS 2001) did not require reference site visits. The surveyors had plentiful experience in the region, so any expressions of rare plants would have been detected. Given the experience of surveyors in desert habitats and flora, and the adequate amount of rainfall in 2008, reference site visits were not deemed necessary.

c. Use of Wildlife Biologists for Surveys

In this section of the PSA, Staff also notes a concern regarding the qualifications of the biologists conducting the surveys.

The surveys for rare plants were conducted in June 2006 (power plant site only), April 2008 (power plant site and all linears), and April 2009 (transmission line route modifications), providing 100% coverage at 30-ft. transects. As shown in the resumes that were included in the AFC (Appendix H, Attachment 1), all botanists and biologists who performed these surveys are experienced in botanical recognition and were qualified for this work (as described in CDFG 2009 protocol). Although it is the case that the plant surveys were conducted at the same time as the wildlife surveys, this approach is acceptable practice when using qualified field personnel experienced in both wildlife and plant species.

Preconstruction floristic surveys will be conducted on the power plant site and some linear facilities in March and May/June of the year prior to the onset of construction (currently expected by the end of 2010). Qualified botanists/biologists (as described in the CDFG 2009 protocol) will conduct the surveys and will adhere to the recently updated *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009).

The PSA proposed Condition of Certification (COC) BIO-11 requires that floristic surveys must be done by "qualified botanists". The CDFG 2009 protocol for plant surveys states:

Botanical consultants should possess the following qualifications:

- Knowledge of plant taxonomy and natural community ecology;
- Familiarity with the plants of the area, including special status species;
- Familiarity with natural communities of the area, including special status natural communities;
- Experience conducting floristic field surveys or experience with floristic surveys conducted under the direction of an experienced surveyor;
- Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
- Experience with analyzing impacts of development on native plant species and natural communities.

These qualifications were met on all botanical surveys performed to date for the PHPP, and will be satisfied for all future surveys.

d. Vegetation Map Errors and Missing Species

The PSA states that the vegetation maps contain mapping errors and the plant table in the AFC is missing species vouchered in the general area. A general habitat assessment was conducted during the 2008 surveys. Additional species mentioned in the PSA as potentially occurring (three were listed) did not appear in the 2007-2008 records search. These three species, described in the table below, would have been blooming and detectable during the surveys done in April 2008.

Species	**Habitat preference**	**Bloom**	**Justification**
California androsace *Androsace elongata* ssp. *Acuta*	Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, and valley and foothill grassland. Typically occurs where vegetation cover is low and mesic conditions are present, such as on and adjacent to moss-covered soil or rock outcrops on north-facing slopes or along rocky washes.	Mar-Jun	CNPS list 4 species. Potential habitat in San Gabriel foothills, but not identified during surveys.
Palmer's Mariposa lily *Calochortus palmeri* var. *palmeri*	Meadows, seeps, and vernally moist areas in chaparral, mixed conifer forest, and yellow pine forest.	Apr-Jul	Suitable microhabitat not present within Project footprint.

Mason's nest straw *Stylocline masonii*	Sandy areas in chenopod scrub and pinyon and juniper woodland.	Mar-May	This species was included in the AFC. Only one occurrence in Los Angeles Co. 4 miles west of Vincent substation.

e. Distinguishing Rare Species

The PSA states that the Applicant did not provide species, subspecies, or variation so Staff cannot tell if a species observed is rare. The species in question are winged cryptantha (*Cryptantha holoptera*), Bailey's woolly buckwheat (*Eriogonum baileyi* var. *praebens*), and Cuyama gilia (*Gilia latiflora* ssp. c*uyamensis*) – see table below. Since these species were List 4 only and highly unlikely to occur in the Project footprint, keying them out was not warranted.

Species	**Habitat preference**	**Bloom**	**Justification**
Winged cryptantha *Cryptantha holoptera*	Mojavean and Sonoran desert scrub.	Mar-Apr	CNPS List 4 species. Not recorded in Los Angeles County.
Bailey's woolly buckwheat *Eriogonum baileyi* var. *praebens*	Great Basin scrub, meadows and seeps, and sandy areas in pinyon and juniper woodland.	May-Sep	CNPS List 4 species. Not recorded in Los Angeles County.
Cuyama gilia *Gilia latiflora* ssp. C*uyamensis*	Sandy areas in pinyon and juniper woodland.	Apr-Jun	CNPS List 4 species. No records in the Project vicinity.

f. Recordation of Species in Relation to Project Footprint

The PSA states that it is unknown where species listed in the above table were recorded in relation to the project footprint. Locational data were not recorded because the species identified to genera were highly unlikely to be the CNPS List 4 species mentioned above, based on the known distribution of those species.

g. Occurrence of Crowned Muilla

The PSA states that Crowned Muilla was never mentioned in the AFC as having a potential to occur, but it was, however, included in the AFC Appendix H, Attachment 5. Crowned Muilla is a CNPS List 4 species. It was detected in the far eastern portion of the power plant site in March 2008 during an initial site visit. Not including it in Section 5.3 of the AFC text and failing to include the location were oversights, but it was included in the appendix.

The following comments pertain to specific Biological Resources Conditions of Certification.

2. Comments on BIO-2, BIO-3, BIO-7, BIO-8 and BIO-13

The Applicant is not requesting any incidental take authorization for Desert Tortoise (DT) from either the USFWS or CDFG, and requests that all references to or requiring handling, relocation, or translocation of DT be removed from the COCs.

DESIGNATED BIOLOGIST DUTIES

BIO-2 The project owner shall ensure that the Designated Biologist performs the following during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities. The Designated Biologist may be assisted by the approved Biological Monitor(s) but remains the contact for the project owner and CPM. The Designated Biologist duties shall include the following:

1. Advise the project owner's Construction and Operation Managers on the implementation of the biological resources conditions of certification;
2. Consult on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) to be submitted by the project owner;
3. Be available to supervise, conduct, and coordinate mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special-status species or their habitat;
4. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;
5. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. At the end of the day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (e.g., parking lots) for animals in harm’s way;
6. Notify the project owner and the CPM of any non-compliance with any biological resources condition of certification;
7. Respond directly to inquiries of the CPM regarding biological resource issues;
8. Maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records shall be submitted in the Monthly Compliance Report and the Annual Compliance Report;
9. Train the Biological Monitors as appropriate, and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP) training, and

USFWS guidelines on desert tortoise surveys. ~~and handling procedures~~ <www.fws.gov/ventura/speciesinfo/protocols_guidelines>; and

10. Maintain the ability to be in regular, direct communication with representatives of CDFG and USFWS, including notifying these agencies of dead or injured listed species and reporting special-status species observations to the California Natural Diversity Data Base.

Verification: The Designated Biologist shall submit in the Monthly Compliance Report to the CPM copies of all written reports and summaries that document biological resources compliance activities. If actions may affect biological resources during operation a Designated Biologist shall be available for monitoring and reporting. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report unless his/her duties cease, as approved by the CPM.

BIOLOGICAL MONITOR QUALIFICATIONS

BIO-3 The project owner's CPM-approved Designated Biologist shall submit the resume, at least three references, and contact information of the proposed Biological Monitors to the CPM for approval in consultation with CDFG and USFWS. The resume shall demonstrate, to the satisfaction of the CPM, the appropriate education and experience to accomplish the assigned biological resource tasks. Biological Monitors involved in any aspect of desert tortoise surveys ~~and handling~~ must meet the criteria to be considered a USFWS Authorized Biologist (USFWS 2008b) and demonstrate familiarity with the most recent protocols and guidelines for the desert tortoise.

Biological Monitor(s) training by the Designated Biologist shall include familiarity with the conditions of certification, BRMIMP, WEAP, USFWS guidelines on desert tortoise surveys ~~and handling procedures~~ <www.fws.gov/ventura/speciesinfo/protocols_guidelines> and all permits.

Verification: The project owner shall submit the specified information to the CPM for approval at least 30 days prior to the start of any project-related site disturbance activities. The Designated Biologist shall submit a written statement to the CPM confirming that individual Biological Monitor(s) has been trained including the date when training was completed. If additional Biological Monitors are needed during construction, the specified information shall be submitted to the CPM for approval at least 10 days prior to their first day of monitoring activities.

BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN

BIO-7 The project owner shall develop a Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) and submit two copies of the proposed BRMIMP to the CPM (for review and approval) and shall implement the measures identified in the approved BRMIMP. The BRMIMP shall incorporate impact avoidance and minimization

measures described in final versions of the Mohave Ground Squirrel Translocation Plan; the Restoration Plan; the Hazardous Materials Plan; the Sensitive Plant Protection Plan; ~~the Desert Tortoise Translocation Plan~~; the Raven Monitoring, Management, and Control Plan; the Swainson's Hawk Monitoring and Mitigation Plan; the Burrowing Owl Monitoring and Mitigation Plan; the Streambed Avoidance ~~and Mitigation~~ Plan; and the Closure Plan.

The BRMIMP shall be prepared in consultation with the Designated Biologist and shall include the following:

1. All biological resources mitigation, monitoring, and compliance measures proposed and agreed to by the project owner;
2. All biological resources conditions of certification identified as necessary to avoid or mitigate impacts;
3. All biological resource mitigation, monitoring, and compliance measures required in federal agency terms and conditions;
4. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation, and closure;
5. All required mitigation measures for each sensitive biological resource;
6. A detailed description of measures that shall be taken to avoid or mitigate temporary disturbances from construction activities;
7. All locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction;
8. Aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities; include one set prior to any site or related facilities mobilization disturbance and one set subsequent to completion of project construction. Provide planned timing of aerial photography and a description of why times were chosen. Provide a final accounting of the before/after acreages and a determination of whether additional habitat compensation is necessary in the Construction Termination Report;
9. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
10. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
11. All remedial measures to be implemented if performance standards are not met;
12. A discussion of biological resources-related facility closure measures including a description of funding mechanism(s); and

13. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

Verification: The project owner shall submit the BRMIMP to the CPM at least 60 days prior to start of any project-related site disturbance activities. The CPM, in consultation with other appropriate agencies, will determine the BRMIMP's acceptability within 45 days of receipt. The BRMIMP shall contain all of the required measures included in all biological conditions of certification. No ground disturbance may occur prior to the CPM's approval of the final BRMIMP.

The project owner shall notify the CPM no less than five working days before implementing any modifications to the approved BRMIMP to obtain CPM approval. Any changes to the approved BRMIMP must also be approved by the CPM in consultation with appropriate agencies to ensure no conflicts exist.

Implementation of BRMIMP measures (construction activities that were monitored, species observed) will be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying which items of the BRMIMP have been completed; a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases; and which mitigation and monitoring items are still outstanding.

3. Comments on BIO-8(16) and BIO-10(2)

In addition to removing the DT handling provisions from BIO-8, the Applicant has submitted proposed language modifying the COCs addressing stockpiling topsoil, including requiring it only for revegetation of temporary disturbance areas. The current COC BIO-10(2) requires separating the top 1 inch of topsoil and storing it separately. This separation would be costly and impracticable, with little advantage when revegetating the relatively small areas that will be restored.

IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-8 The project owner shall undertake the following measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to biological resources:

1. Limit Disturbance Area. The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging prior to construction activities in consultation with the Designated Biologist. Spoils shall be stockpiled in disturbed areas lacking native vegetation and which do not provide habitat for special-status species. Parking areas, staging and disposal site locations shall also be located in areas without native

vegetation or special-status species habitat. All disturbances, vehicles, and equipment shall be confined to the flagged areas.

2. Minimize Road Impacts. New and existing roads that are planned for construction, widening, or other improvements shall not extend beyond the flagged impact area as described above. All vehicles passing or turning around will do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads (e.g. new spur roads) or the construction zone, the route will be clearly marked (i.e., flagged and/or staked) prior to the onset of construction.

3. Minimize Traffic Impacts. Vehicular traffic during project construction and operation shall be confined to existing routes of travel to and from the project site, and cross country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit shall not exceed 25 miles per hour within the project area, on maintenance roads for linear facilities, or on access roads to the PHPP site.

4. Monitor During Construction. The Designated Biologist or Biological Monitor shall be present at the construction site during all project activities located outside the exclusion fencing that have potential to disturb soil, vegetation, and wildlife. In areas that could support desert tortoise, Mohave ground squirrel, or any other sensitive wildlife species (including, but not limited to, silvery legless lizard, coast horned lizard, nesting birds, southern grasshopper mouse, and American badger) and are located outside the exclusion fencing, the USFWS-approved Designated Biologist or Biological Monitor shall walk immediately ahead of equipment during brushing and grading activities.

5. Salvage Wildlife during Clearing and Grubbing. The Designated Biologist or Biological Monitor shall salvage and relocate sensitive wildlife species (including, but not limited to, silvery legless lizard, coast horned lizard, and southern grasshopper mouse) during clearing and grading operations. The species shall be salvaged when conditions will not jeopardize the health and safety of the monitor and relocated to off-site habitat.

6. Minimize Impacts of Transmission/Pipeline Alignments, Roads, and Staging Areas. For construction activities outside of the plant site (transmission line, pipeline alignments), access roads, pulling sites, and storage and parking areas shall be designed, installed, and maintained with the goal of minimizing impacts to native plant communities and sensitive biological resources. Transmission lines and all electrical components shall be designed, installed, and maintained in accordance with the Avian Power Line Interaction Committee's (APLIC's) *Suggested Practices for Avian Protection on Power Lines* (APLIC 2006) and *Mitigating Bird Collisions with Power Lines* (APLIC 2004) to reduce the likelihood of ~~large~~ bird electrocutions and collisions.

7. Avoid Use of Toxic Substances. Road surfacing and sealants as well as soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to wildlife and plants. Anticoagulants shall not be used for rodent control.

8. Minimize Lighting Impacts. Facility lighting shall be designed, installed, and maintained to prevent side casting of light towards wildlife habitat.

9. Avoid Vehicle Impacts to Desert Tortoise. No vehicles or construction equipment outside of the exclusion fencing shall be moved after parking for any period of time, no matter how brief, prior to an inspection of the ground beneath the vehicle for the presence of desert tortoise. If a desert tortoise is observed, it will be left to move on its own. ~~If the tortoise does not move, the animal will be relocated to a safe location within 500 feet of the project area.~~ No tortoise shall be moved without authorization from the CDFG, USFWS, and CPM, unless it is in imminent danger.

10. Avoid Wildlife Pitfalls. At the end of each work day, the Designated Biologist shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) outside the permanently fenced area have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with tortoise-exclusion fencing. All trenches, bores, and other excavations shall be inspected periodically throughout and at the end of each workday by the Designated Biologist or a Biological Monitor. Should wildlife become trapped, the Designated Biologist or Biological Monitor shall remove and relocate the individual to a safe location. Any wildlife encountered during the course of construction shall be allowed to leave the construction area unharmed.

11. Avoid Entrapment of Desert Tortoise and Mohave Ground Squirrel. Any construction pipe, culvert, or similar structure with a diameter greater than 3 inches, stored less than 8 inches above ground and within desert tortoise or Mohave ground squirrel habitat for one or more days/nights, shall be inspected for tortoises or Mohave ground squirrel before the material is moved, buried, or capped. As an alternative, all such structures may be capped before being stored outside the fenced area, or placed on pipe racks. These materials would not need to be inspected or capped if they are stored within the permanently fenced area after the clearance surveys have been completed.

12. Minimize Standing Water. Water applied to dirt roads and construction areas (trenches or spoil piles) for dust abatement shall use the minimal amount needed to meet safety and air quality standards in an effort to prevent the formation of puddles, which could attract desert tortoises and common ravens to construction sites. A Biological Monitor shall patrol these areas to ensure water does not puddle and attract desert tortoise, common ravens, and other wildlife to the site and shall take appropriate action to reduce water application where necessary.

13. Minimize Spills of Hazardous Materials. All vehicles and equipment shall be maintained in proper working condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Designated Biologist shall be informed of any hazardous spills immediately as directed in the project Hazardous Materials Plan. Hazardous spills shall be immediately cleaned up and the contaminated soil properly disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated area. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks or spills.

14. Worker Guidelines. During construction all trash and food-related waste shall be placed in self-closing containers and removed daily from the site. Workers shall not feed wildlife or bring pets to the project site. Except for law enforcement personnel, no workers or visitors to the site shall bring firearms or weapons.

15. Avoid Spread of Noxious Weeds. The project owner shall implement the following Best Management Practices during construction and operation to prevent the spread and propagation of noxious weeds:

    a. Limit the size of any vegetation and/or ground disturbance to the absolute minimum and limit ingress and egress to defined routes;

    b. Prevent spread of non-native plants via vehicular sources by implementing Trackclean™ or other methods of vehicle cleaning for vehicles leaving ~~coming and going from~~ construction sites. Earth-moving equipment shall be cleaned prior to transport to the construction site;

    c. Use only weed-free straw, hay bales, and seed, if available and practicable, for erosion control and sediment barrier installations, and

    d. Avoid using invasive non-native species in landscaping plans and erosion control.

16. Stockpile Topsoil. To increase chances for revegetation success, the top 6-8 inches of topsoil shall be stockpiled from the project site and along project linear features for use in revegetation of temporary disturbance areas. Native topsoil from the least disturbed locations and only areas that are relatively free of noxious weeds shall be used as a source of topsoil. All other elements of topsoil use shall be as described in Rehabilitation of Disturbed Lands in California (Newton and Claassen 2003, pp. 39-40).

17. Implement Erosion Control Measures. Standard erosion control measures shall be implemented for all phases of construction and operation where sediment run-off from exposed slopes threatens to enter "Waters of the State." Sediment and other flow-restricting materials shall be moved to a location where they shall not be washed back into the stream. All disturbed soils and roads within the project site shall be stabilized to reduce erosion potential, both during and following construction. Areas

of disturbed soils (access and staging areas) with slopes toward a drainage shall be stabilized to reduce erosion potential.

18. Monitor Ground-Disturbing Activities Prior to Site Mobilization. If ground-disturbing activities are required prior to site mobilization, such as for geotechnical borings or hazardous waste evaluations, a Designated Biologist or Biological Monitor shall be present to monitor any actions that could disturb soil, vegetation, or wildlife.
19. Control and Regulate Fugitive Dust. To reduce the potential for the transmission of fugitive dust the owner shall implement dust control measures. These shall include:
    a. The owner shall apply non-toxic soil binders, equivalent or better in efficiencies than the ARB- approved soil binders, to active unpaved roadways, unpaved staging areas, and unpaved parking area(s) throughout construction to reduce fugitive dust emissions.
    b. Water the disturbed areas of the active construction sites at least three times per day and more often if uncontrolled fugitive dust is noted.
    c. Enclose, cover, water twice daily, and/or apply non-toxic soil binders according to manufacturer's specifications to exposed piles with a 5% or greater silt content.
    d. Establish a vegetative ground cover (in compliance with biological resources impact mitigation measures above) or otherwise create stabilized surfaces on all unpaved areas at each of the construction sites within 21 days after active construction operations have ceased.
    e. Increase the frequency of watering, if water is used as a soil binder for disturbed surfaces, or implement other additional fugitive dust mitigation measures, to all active disturbed fugitive dust emission sources when wind speeds (as instantaneous wind gusts) exceed 25 mph.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures will be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.

4. Comment on BIO-9

Wording is suggested to BIO-9, item 4, to ensure that it is clear that this monitoring applies during the construction phase only.

COMPLIANCE VERIFICATION

BIO-9 The project owner shall provide Energy Commission staff, CDFG, and USFWS with reasonable access to the project site and mitigation lands under the control of the project owner and shall otherwise fully cooperate with the Energy Commission's efforts to verify

the project owner's compliance with, or the effectiveness of, mitigation measures set forth in the conditions of certification. The project owner shall hold harmless the Designated Biologist, the Energy Commission and staff, and any other agencies with regulatory requirements addressed by the Energy Commission's sole permitting authority for any costs the project owner incurs in complying with the management measures, including stop work orders issued by the CPM or the Designated Biologist. The Designated Biologist shall do all of the following:

1. Notification. Notify the CPM, CDFG, and USFWS at least 14 calendar days before initiating ground-disturbing activities. Immediately notify the CPM, CDFG, and USFWS in writing if the project owner is not in compliance with any conditions of certification, including but not limited to any actual or anticipated failure to implement mitigation measures within the time periods specified in the conditions of certification. CDFG shall be notified at their Southern Region Headquarters Office, 4949 Viewridge Avenue, San Diego, CA 92123; (858) 467-4201. USFWS shall be notified at their Ventura office at 2493 Portola Road, Suite B, Ventura, CA 93003; (805) 644-1766.
2. Monitoring During Grading. Remain on site daily while grubbing and grading are taking place to avoid or minimize take of listed species, to check for compliance with all impact avoidance and minimization measures, and to check all exclusion zones to ensure that signs, stakes, and fencing are intact and that human activities are restricted in these protected zones.
3. Fence Monitoring. During construction maintain and check desert tortoise exclusion fences on a daily basis to ensure the integrity of the fence is maintained. The Designated Biologist shall be present on site to monitor construction and determine fence placement during fence installation. During operation of the project, fence inspections shall occur at least once per month throughout the life of the project, and more frequently after storms or other events that might affect the integrity and function of desert tortoise exclusion fences. Fence repairs shall occur within two days (48 hours) of detecting problems that affect the functioning of the desert tortoise exclusion fencing.
4. Monthly Compliance Inspections. Conduct compliance inspections at a minimum of once per month after clearing, grubbing, and grading are completed and until construction is completed, and submit a monthly compliance report to the CPM, USFWS, and CDFG. All observations of listed species and their sign shall be reported to the Designated Biologist for inclusion in the monthly compliance report.
5. Annual Listed Species Status Report. No later than January 31 of every year the PHPP facility remains in operation, provide the CPM, USFWS, and CDFG an annual Listed Species Status Report, which shall include, at a minimum: 1) a general description of the status of the project site and construction/operation activities, including actual or projected completion dates, if known; 2) a copy of the table in the

BRMIMP with notes showing the current implementation status of each mitigation measure; 3) an assessment of the effectiveness of each completed or partially completed mitigation measure in minimizing and compensating for project impacts, and 4) recommendations on how effectiveness of mitigation measures might be improved.

6. Final Listed Species Mitigation Report. No later than 45 days after initiation of project operation, provide the CPM a Final Listed Species Mitigation Report that shall include, at a minimum: 1) a copy of the table in the BRMIMP with notes showing when each of the mitigation measures was implemented; 2) all available information about project-related incidental take of listed species; 3) information about other project impacts on the listed species; 4) construction dates; 5) an assessment of the effectiveness of conditions of certification in minimizing and compensating for project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the listed species; and 7) any other pertinent information, including the level of take of the listed species associated with the project.

7. Notification of Injured, Dead, or Relocated Listed Species. In the event of a sighting in an active construction area (e.g., with equipment, vehicles, or workers), injury, kill, or relocation of any listed species, the CPM, CDFG, and USFWS shall be notified immediately by phone. Notification shall occur no later than noon on the business day following the event if it occurs outside normal business hours so that the agencies can determine if further actions are required to protect listed species. Written follow-up notification via FAX or electronic communication shall be submitted to these agencies within two calendar days of the incident and include the following information as relevant:

    a. Injured Desert Tortoise. If a desert tortoise is injured as a result of project-related activities during construction, the Designated Biologist shall immediately take it to a CDFG-approved wildlife rehabilitation and/or veterinarian clinic. Any veterinarian bills for such injured animals shall be paid by the project owner. Following phone notification as required above, the CPM, CDFG, and USFWS shall determine the final disposition of the injured animal, if it recovers. Written notification shall include, at a minimum, the date, time, location, circumstances of the incident, and the name of the facility where the animal was taken.

    b. Desert Tortoise/Mohave Ground Squirrel Fatality. If a desert tortoise or Mohave ground squirrel is killed by project-related activities during construction or operation, or if a desert tortoise or Mohave ground squirrel is otherwise found dead, submit a written report with the same information as an injury report. These desert tortoises shall be salvaged according to guidelines described in *Salvaging Injured, Recently Dead, Ill, and Dying Wild, Free-Roaming Desert Tortoise* (Berry 2001). The project owner shall pay to have the desert tortoises transported

and necropsied. The report shall include the date and time of the finding or incident.

8. Stop Work Order. The CPM may issue the project owner a written stop work order to suspend any activity related to the construction or operation of the project to prevent or remedy a violation of one or more conditions of certification (including but not limited to failure to comply with reporting, monitoring, or habitat acquisition obligations) or to prevent the illegal take of an endangered, threatened, or candidate species. The project owner shall comply with the stop work order immediately upon receipt thereof.

Verification: No later than two calendar days following the above-required notification of a sighting, kill, injury, or relocation of a listed species, the project owner shall deliver to the CPM, CDFG, and USFWS via FAX or electronic communication the written report from the Designated Biologist describing all reported incidents of the sighting, injury, kill, or relocation of a listed species, identifying who was notified and explaining when the incidents occurred. In the case of a sighting in an active construction area, the project owner shall, at the same time, submit a map (e.g., using Geographic Information Systems) depicting both the limits of construction and sighting location to the CPM, CDFG, and USFWS.

No later than January 31st of every year the PHPP facility remains in operation, provide the CPM an annual Listed Species Status Report as described above, and a summary of desert tortoise exclusion fence inspections and repairs conducted in the course of the year.

5. Comments on BIO-10

The Applicant disagrees with the proposed 2:1 mitigation for impacts to "native plant communities, including Joshua Tree Woodland and Mojavean Juniper Scrub." The PSA states "The CDFG considers Joshua Tree Woodland as globally 'uncommon, but not rare.'" (PSA at Pg. 4.2-15) Also, the PSA states that Mojavean Juniper Scrub is dominated by California juniper. (PSA at Pg. 4.2-12) Based on these findings, substantially less mitigation should be required.

The Applicant has complied with all requirements of the California Desert Native Plants Act and the City of Palmdale Native Desert Vegetation Ordinance for protection of Joshua trees and California junipers through the measures provided in the following two documents:

- Inventory Report and Site Plan for Joshua Trees and California Junipers (May 2009).
- Long Term Maintenance Program, City of Palmdale Native Desert Vegetation Ordinance (July 2009). Provides for avoidance and salvage/transplantation and includes success criteria.

The Applicant fully addressed protection of these plant species in its Response to Data Request 3, filed January 12, 2009. The Applicant contends that no further compensation acreage beyond what has been proposed is required.

Further, the City of Palmdale expects to develop the parcel to the west of the plant site where the laydown area will be located. Although the development plan and timing of the development are not yet known, the restoration or revegetation of the laydown area should not be required, since the area is expected to be developed.

See also comment number II.C.3 above regarding the top soil removal. Applicant requests a copy of pages 39-40 of *Rehabilitation of Disturbed Lands in California* (Newton and Claassen 2003, so that we can determine if these requirements are reasonable.

RESTORATION PLAN AND COMPENSATION FOR IMPACTS TO NATIVE VEGETATION COMMUNITIES

BIO-10 The project owner shall provide restoration/compensation for impacts to native vegetation communities and develop and implement a Restoration Plan for all areas subject to temporary project disturbance. Upon completion of construction, all temporarily disturbed areas shall be revegetated, excluding the laydown area, road and roadbed. ~~Native plant communities including Joshua Tree Woodland and Mojavean Juniper Scrub will be mitigated at a ratio of no less than 2:1 through the purchase of off-site habitat.~~ Permanent impacts to Riparian Communities will require a ratio of 5:1. The following measures shall be implemented for the revegetation effort areas not subject to the facility Landscape Plan. These measures will include:

1. Plan Details. The plans shall include at minimum: (a) the location of the mitigation site ~~(off-site mitigation may be required);~~ (b) locations and details for top soil storage; (c) the plant species to be used; (d) seed collection guidelines; (e~~d~~) a schematic depicting the mitigation area; (~~e~~f) time of year that the planting will occur and the methodology of the planting; (~~f~~g) a description of the irrigation methodology if used; (~~g~~h) measures to control exotic vegetation on site; (~~h~~i) success criteria; (~~i~~j) a detailed monitoring program; and (~~j~~k) locations and impacts to all Joshua and Juniper Trees. All habitats dominated by non-native species prior to project disturbance shall be revegetated using appropriate native species.
2. Topsoil Salvage. Topsoil shall be stockpiled from the project site for use in revegetation of temporarily ~~the~~ disturbed soils. ~~The upper 1 inch of topsoil which contains the seedbank shall be scraped and stockpiled for use as the top-dressing for the revegetation area. An additional~~Six (6) ~~6~~ to eight (8) inches of soil ~~below the top 1 inch of soil~~ shall ~~also~~ be scraped and ~~separately~~stockpiled for use in revegetation of temporarily disturbed areas. All other elements of soil stockpiling shall be conducted as described on pages 39-40 of *Rehabilitation of Disturbed Lands in California* (Newton and Claassen 2003)
3. Seed Stock. Only seed of locally occurring species shall be used for revegetation. Seeds shall contain a mix of short-lived early pioneer species such as native annuals and perennials and subshrubs (for example, squirreltail, cheesebush, matchweed,

peppergrass, rabbitbrush, creosote bush, burro-weed, wolfberry, Nevada tea, needlegrass, rice grass, goldenhead). Seeding shall be conducted as described in Chapter 5 of *Rehabilitation of Disturbed Lands in California* (Newton and Claassen 2003). A list of plant species suitable for Mojave Desert region revegetation projects, including recommended seed treatments, are included in Appendix A-8 of the same report. The list of plants observed during the 2010 special-status plant surveys of the PHPP area can also be used as a guide to site-specific plant selection for revegetation.

4. Monitoring Requirement and Success Criteria. Post-seeding and planting monitoring will be yearly from years one to five or until the success criteria are met. If the survival and cover requirements have not been met, the owner is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements as previously mentioned. Remediation activities (e.g. additional planting, removal of non-native invasive species, or erosion control) shall be taken during the five-year period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established performance criteria after the five-year maintenance and monitoring period, monitoring and remedial activities shall extend beyond the five-year period until the criteria are met or unless otherwise specified by the Energy Commission. If a fire occurs in a revegetation area within the five-year monitoring period, the owner shall be responsible for a one-time replacement. If a second fire occurs, no replanting is required, unless the fire is caused by the owner's activity.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Within 90 days after completion of project construction, the project owner shall provide to the CPM verification of the total vegetation and community subject to temporary and permanent disturbance. If habitat disturbance exceeded that described in this analysis, the CPM shall notify the project owner of any additional mitigation ~~funds~~ required ~~or compensation acreage that must be purchased~~ to compensate for any additional habitat disturbances ~~at the adjusted market value at the time of construction to acquire and manage habitat.~~ To monitor and evaluate the success of the restoration the owner shall submit annual reports of the restoration including the status of the site, percent cover of native and exotics, and any remedial actions conducted by the owner to the CPM.

~~For Joshua Tree Woodland and Mojavean Juniper Scrub, no less than 90 days prior to acquisition of the property, the project owner, or a third-party approved by the CPM, in consultation with CDFG and USFWS, shall submit a formal acquisition proposal to the CPM, CDFG, and USFWS describing the parcel(s) intended for purchase. These lands may be collated within lands acquired to off-set impacts to Mohave ground squirrels. All mitigation lands must be within Los Angeles County.~~

~~Draft agreements to delegate land acquisition to CDFG or an approved third party and agreements to manage compensation lands shall be submitted to Energy Commission staff for review and approval (in consultation with CDFG) prior to land acquisition. Such agreements~~

~~shall be mutually approved and executed at least 60 days prior to start of any project-related ground disturbance activities. The project owner shall provide written verification to the CPM that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient(s). Alternatively, before beginning project ground-disturbing activities or any other activities that could result in take, the project owner shall provide Security in accordance with this condition. Within 90 days after the land or easement purchase, as determined by the date on the title, the project owner shall provide the CPM with a management plan for review and approval, in consultation with CDFG, for the compensation lands and associated funds.~~

6. Comment on BIO-11

While construction of the power plant and reclaimed water pipeline are expected to occur as early as 2010, it is unlikely that construction of the transmission line or natural gas pipeline will occur before the middle of next year (2011). Therefore, we suggest delay of the pre-construction surveys for these linear components until the Spring prior to ground disturbance. Reference to protocol was replaced with reference for new protocol dated Nov 24, 2009, Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. References to USFWS were removed because ESA take protection only applies to plants under federal jurisdiction.

Per the discussion in comment II.C.1 above, the Applicant believes that a "qualified botanists" is someone who meets the requirements under the CDFG 2009 Protocol for plant surveys, which do not require surveyors to have a degree in botany.

SPECIAL-STATUS PLANT SURVEYS/PROTECTION PLAN

BIO-11 To avoid impacts to State and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate or California Native Plant Society List 1A, 1B, 2, 3, or 4 plants that might occur on the PHPP site or along the proposed transmission line alignments, pre-construction surveys shall be conducted in these areas in Spring 2010 for the power plant site and reclaimed water pipeline, and in the Spring prior to the commencement of ground disturbance for the transmission line and natural gas pipeline. If special-status plant species are detected within 100 feet of the project footprint, the qualified botanist shall prepare a Sensitive Plant Protection Plan to avoid direct and indirect impacts. The project owner shall implement the following measures:

1. Pre-Construction Floristic Surveys. A qualified botanist (i.e., someone who meets the qualifications in the CDFG 2009 Protocol) shall conduct floristic surveys on the PHPP project site and along linear facilities in all areas subject to ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new access roads. Surveys shall be conducted within 100 feet of all surface-disturbing activities at the appropriate time of year and according to

guidelines from the California Department of Fish and Game (CDFG ~~2000~~2009) and the California Native Plant Society (CNPS 2001).

2. Sensitive Plant Protection Plan. If special-status plant species are detected during pre-construction surveys, a qualified botanist shall prepare a Sensitive Plant Protection Plan (Plan). Populations of rare plants shall be flagged and mapped prior to any ground disturbance. Where possible the owner shall modify the placement of structures, access roads, laydown areas, and other ground-disturbing activities in order to avoid the plants. The Plan shall include measures for avoiding direct impacts and accidental impacts during construction by identifying the plant occurrence location and establishing an appropriately sized buffer. The Plan shall also include measures to avoid indirect impacts including: sedimentation from adjacent disturbed soils; alterations of the site hydrology from changes in the drainage patterns; dust deposition; and displacement or degradation of the habitat from the introduction and spread of noxious weeds. The Plan shall also include a discussion of monitoring and reporting requirements during and after construction.

   a. Prior to any ground disturbance, any populations of listed plant species identified during the surveys shall be protected by a buffer zone if they can be avoided. The buffer zone shall be established around these areas and shall be of sufficient size to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including human trampling, erosion, and dust. The size of the buffer will depend upon the proposed use of the immediately adjacent lands, and includes consideration of the plant's ecological requirements (e.g., sunlight, moisture, shade tolerance, edaphic physical and chemical characteristics) that are identified by the Designated Biologist. The buffer for herbaceous species shall be, at minimum, 50 feet from the perimeter of the population or the individual. A smaller buffer may be established, provided there are adequate measures in place to avoid the take of the species, with the approval of the USFWS, CDFG, and CPM.

   b. Impacts to non-listed plant species (i.e., CNPS List 1, 2, 3, and 4 species) shall first be avoided where feasible, and, where not feasible, impacts shall be mitigated ~~compensated~~ through reseeding (with locally collected seed stock), or other CPM-approved methods. If Project activities will result in loss of more than 10% of the known individuals within an existing population of non-listed special-status plant species, the project owner shall preserve existing off-site occupied habitat that is not already part of the public lands in perpetuity at a 2:1 mitigation ratio. The CPM may reduce this ratio depending on the sensitivity of the plant. The preserved habitat shall be occupied by the plant species impacted, and be of superior or similar habitat quality to the impacted areas in terms of soil features, extent of disturbance, habitat structure, and dominant species composition, as determined by a qualified plant ecologist.

3. State ~~or Federally~~ Listed Plant Species: If impacts to listed plants are determined to be unavoidable, ~~the USFWS shall be consulted for authorization, through the context of a Biological Opinion, and/or~~ the CDFG shall be consulted for authorization of take through an Incidental Take Permit. Additional mitigation measures to protect or restore listed plant species or their habitat may be required by ~~the USFWS and/or~~ CDFG before impacts are authorized.

~~1. Agency Notification and Avoidance: If State or federally listed plant species are detected during the pre-construction floristic surveys, the CPM, USFWS, and CDFG shall be notified in writing no more than 15 days from detection of the plants.~~

~~2. Review and Submittal of Plan: The project owner shall submit to the CPM, USFWS, and CDFG a draft Sensitive Plant Protection Plan. Prior to any ground-disturbing activities within 100 feet of the sensitive plant occurrences detected during the pre-construction floristic surveys, the project owner shall submit to the CPM a final Plan that reflects review and approval by Energy Commission staff in consultation with CDFG and USFWS.~~

Verification: No later than July 31, 2010, or other year as applicable, the project owner shall submit a report describing the results of floristic surveys conducted on the PHPP power plant site and along the proposed transmission line alignment. The report shall be submitted to the CPM~~, USFWS,~~ and CDFG and shall describe qualifications of the surveyor, survey methods including dates and times, a discussion of visits to reference sites, figures depicting the area(s) surveyed, figures depicting the locations of any special-status plants observed, and a list of all plant species detected. If State listed plant species are detected during the pre-construction floristic surveys, the CPM and CDFG shall be notified in writing no more than 15 days from detection of the plants.

If special-status plant species were detected during the 2010 surveys the project owner shall submit to the CPM and CDFG a Sensitive Plant Protection Plan (Plan) at least 60 days prior to the start of any ground-disturbing activities within 100 feet of the sensitive plant occurrences detected during the pre-construction floristic surveys. The CPM will determine the Plan's acceptability in consultation with CDFG and USFWS within 15 days of receipt of the Plan. Any modifications to the approved Plan shall be made only after approval by Energy Commission Staff in consultation with CDFG ~~and USFWS~~. The project owner shall notify the CPM no fewer than 5 working days before implementing any CPM-approved modifications to the Plan.

Within 30 days after completion of construction the project owner shall provide to the CPM~~, USFWS, and~~ CDFG a construction termination report discussing how mitigation measures described in the Plan were implemented.

7. Comment on BIO-12

Because arroyo toad protocol surveys have already been completed, the Applicant contends that it is not necessary to perform them again. The Applicant agrees to conduct preconstruction clearance surveys and monitoring for arroyo toads during ground disturbance.

AVOIDANCE MEASURES FOR ARROYO TOAD

BIO-12 The project owner shall conduct pre-construction surveys for arroyo toads at the Little Rock Creek transmission line crossing on Segment 2 and implement impact avoidance and minimization measure during all construction activities. These measures include, but are not limited to, the following:

1. Surveys. Prior to ground disturbance the project owner shall retain a biologist who is familiar with arroyo toads that occur in desert habitats to conduct clearance ~~protocol s~~urveys prior to construction and monitor all construction activities at Little Rock Creek. Clearance surveys shall be completed within 24 hours of construction. If arroyo toads are detected, a 500-foot disturbance free buffer shall be implemented and the area shall be avoided until the owner completes consultation with the USFWS.
2. Monitoring. The project owner shall conduct full time monitoring of all areas within 500 feet of Little Rock Creek during ground disturbance activities. Although this species is primarily nocturnal and aestivates during the winter, monitoring during ground disturbance activities shall occur year round whenever day time temperatures exceed 50 degrees Fahrenheit and during periods of rainfall. If arroyo toads are detected, the Designated Biologist shall contact the CPM and USFWS within 24 hours. Work shall not occur within 500 feet of Little Rock Creek until approved by the CPM and USFWS.

Verification: Within 30 days of completion of arroyo toad ~~protocol and~~ clearance surveys, the Designated Biologist shall submit a report to the CPM describing how mitigation measures described above have been satisfied. The report shall include the survey results and any other information needed to demonstrate compliance with the measures described above.

DESERT TORTOISE ~~CLEARANCE SURVEYS AND~~ EXCLUSION FENCING

BIO-13 The project owner shall undertake appropriate measures to manage construction at the plant site and linear facilities in a manner to avoid impacts to desert tortoise. Methods for clearance surveys, fence installation, and other procedures shall be consistent with those described in the *Guidelines for Handling Desert Tortoise During Construction Projects* (Desert Tortoise Council 1999) or more current guidance provided by CDFG and USFWS. These measures include, but are not limited to, the following:

1. Fence Installation. Prior to ground disturbance, the entire plant site shall be fenced with permanent desert tortoise-exclusion fence. To avoid impacts to desert tortoise during fence construction, the proposed fence alignment shall be flagged and the alignment surveyed within 24 hours prior to fence construction. Surveys shall be conducted by the Designated Biologist using techniques approved by the USFWS and CDFG. Biological Monitors may assist the Designated Biologist under his or her supervision. These surveys shall provide 100% coverage of all areas to be disturbed during fence construction and an additional transect along both sides of the proposed fence line. This fence line transect shall cover an area approximately 90 feet wide centered on the fence alignment. Transects shall be no greater than 30 feet apart. All desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, shall be examined to assess occupancy of each burrow by desert tortoises and handled in accordance with USFWS-approved protocol.

    a. Timing, Supervision of Fence Installation. The exclusion fencing shall be installed prior to the onset of site clearing and grubbing. The fence installation shall be supervised by the Designated Biologist and monitored by the Biological Monitors to ensure the safety of any tortoise present.

    b. Fence Material and Installation. The permanent tortoise exclusionary fencing shall be constructed in compliance with current USFWS guidelines.~~consist of galvanized hard wire cloth 1 by 2 inch mesh sunk 12 inches into the ground, and 24 inches above ground (USFWS 2008b, Appendix D).~~

    c. Security Gates. Security gates shall be designed with minimal ground clearance to deter ingress by tortoises, including gates that would exclude public access to the PHPP site.

    d. Tower Fencing. If tortoises are discovered during clearance surveys of the linear routes, the tower locations shall be temporarily fenced with tortoise exclusion fencing to prevent desert tortoise entry during construction. Temporary fencing must follow current USFWS guidelines for permanent fencing and supporting stakes shall be sufficiently spaced to maintain fence integrity.

    e. Fence Inspections. Following installation of the desert tortoise exclusion fencing for both the permanent site fencing and temporary fencing in the utility corridors, the fencing shall be regularly inspected. Permanent fencing shall be inspected monthly and during/following all major rainfall events. Any damage to the fencing shall be temporarily repaired immediately to keep tortoises out of the site, and permanently repaired within two days of observing damage. Inspections of permanent site fencing shall occur for the life of the project. Temporary fencing must be inspected weekly and, where drainages intersect the fencing, during and immediately following major rainfall events. All temporary fencing shall be repaired immediately upon discovery and, if the fence may have permitted

tortoise entry while damaged, the Designated Biologist shall inspect the utility corridor or tower site for tortoise.

2. Desert Tortoise Clearance Surveys. Following construction of the tortoise exclusionary fencing around the Plant Site, all fenced areas shall be cleared of tortoises by the Designated Biologist, who may be assisted by Biological Monitors. A minimum of two clearance surveys, with negative results, must be completed~~, and these must coincide with heightened desert tortoise activity from late March through May and during October. To facilitate seeing the ground from different angles, the second clearance survey shall be walked at 90 degrees to the orientation of the first clearance survey.~~

3. Relocation for Desert Tortoise. If desert tortoises are detected on the PHPP site, the owner shall coordinate with the USFWS, CDFG, and CPM regarding the disposition of the animal(s). ~~If located during clearance surveys within the transmission line project impact area the Designated Biologist shall move the tortoise the shortest possible distance, keeping it out of harm's way but still within its home range. Desert tortoise encountered during construction of any of the utility corridors shall be similarly treated in accordance with the techniques described in the *Guidelines for Handling Desert Tortoise during Construction Projects* (Desert Tortoise Council 1999) or more current guidance on the USFWS website. Any person handling tortoise must be trained and approved by the USFWS and CDFG and be on site during ground disturbance or construction. A site where tortoises will be moved must be pre-approved, and acquired prior to ground disturbing activities. The health of any tortoise to be translocated must be assessed prior to moving; a quarantine site located for any ill tortoise must be designated. The host population of tortoise surveyed prior to any translocated tortoise being moved, and a study to determine the efficacy of the translocation and impact to host population be conducted for a minimum of 5 years.~~

~~4. Burrow Inspection. All potential desert tortoise burrows within the fenced area shall be searched for presence. In some cases, a fiber optic scope may be needed to determine presence or absence within a deep burrow. To prevent reentry by a tortoise or other wildlife, all burrows shall be collapsed once absence has been determined. Tortoises excavated from burrows shall be translocated to unoccupied natural or artificial burrows immediately following excavation in an area approved by the Designated Biologist if environmental conditions warrant immediate relocation.~~

~~5. Biologist using hand tools, and then collapsed or blocked to prevent re-occupation. If excavated during May through July, the Designated Biologist shall search for desert tortoise nests/eggs. All desert tortoise handling and removal, and burrow excavations, including nests, shall be conducted by the Designated Biologist in accordance with the USFWS-approved protocol (Desert Tortoise Council 1999) or more current guidance on the USFWS website.~~

~~6~~4. Monitoring During Clearing. Following construction of exclusion fencing and completion of clearance surveys, ~~desert tortoise clearance removal from the plant site and translocation to a new site,~~ heavy equipment shall be allowed to enter the project site to perform earth work such as clearing, grubbing, leveling, and trenching. A Biological Monitor shall be onsite during initial clearing and grading activities. Should a tortoise be discovered, the owner shall coordinate with the USFWS, CDFG and CPM regarding the disposition of the animal(s).~~it shall be translocated as described above in accordance with the Desert Tortoise Translocation Plan.~~

~~7~~5. Reporting. The Designated Biologist shall record the following information for any desert tortoises observed or handled: a) the locations (narrative and maps) and dates of observation; b) general condition and health, including injuries, state of healing and whether desert tortoise voided their bladders; c) location moved from and location moved to (using GPS technology); d) gender, carapace length, and diagnostic markings (i.e., identification numbers or marked lateral scutes); e) ambient temperature when handled and released; and f) digital photograph of each handled desert tortoise as described in the paragraph below. Desert tortoise moved from within project areas shall be marked for future identification as described in *Guidelines for Handling Desert Tortoise during Construction Projects* (Desert Tortoise Council 1999) or more current guidance on the USFWS website. Digital photographs of the carapace, plastron, and fourth costal scute shall be taken. Scutes shall not be notched for identification. Any desert tortoises observed within the project area or adjacent habitat shall be reported to the USFWS, CDFG, and CPM by written and electronic correspondence within 24 hours.

Verification: ~~Within 60 days of publication of the Energy Commission Decision the project owner shall submit to Energy Commission Staff, USFWS and CDFG a draft Desert Tortoise Translocation Plan. At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall provide the CPM with the final version of a Translocation Plan that has been approved by Energy Commission staff in consultation with USFWS and CDFG. The CPM will determine the plan's acceptability within 15 days of receipt of the final plan. All modifications to the approved Desert Tortoise Translocation Plan must be made only after approval by the Energy Commission staff in consultation with USFWS and CDFG. The project owner shall notify the CPM no fewer than 5 working days before implementing any CPM-approved modifications to the Translocation Plan.~~

~~Within 30 days after initiation of translocation activities, the Designated Biologist shall provide to the CPM for review and approval, a written report identifying which items of the Translocation Plan have been completed, and a summary of all modifications to measures made during implementation.~~

Within 30 days of completion of construction activities ~~desert tortoise clearance surveys~~ the Designated Biologist shall submit a report to the CPM, USFWS, and CDFG describing how each of the mitigation measures described above has been satisfied. ~~The report shall include the desert~~

~~tortoise survey results, capture and release locations of any relocated desert tortoises, and any other information needed to demonstrate compliance with the measures described above.~~

8. Comment on BIO-14

The Applicant would like to add a statement to condition BIO-14 limiting the Raven Plan in-lieu fee to an amount to be determined based on the extent of the projects' potential to impact desert tortoises.

RAVEN MONITORING, MANAGEMENT, AND CONTROL PLAN

BIO-14 The project owner shall design and implement a Raven Monitoring, Management, and Control Plan (Raven Plan) that is consistent with the most current USFWS-approved raven management guidelines and that meets the approval of the USFWS, CDFG, and the Energy Commission. The Raven Plan shall: identify conditions associated with the project that might provide raven subsidies or attractants; describe management practices to avoid or minimize conditions that might increase raven numbers and predatory activities; describe control practices for ravens; address monitoring during construction and for the life of the project; and discuss reporting requirements. For the first year of reporting the project owner shall provide quarterly reports describing implementation of the Raven Plan. Thereafter the reports shall be submitted annually for the life of the project. The Raven Plan shall also include a requirement for payment of an in-lieu fee to a third-party account established by the USFWS to support a regional raven monitoring and management plan (USFWS 2009), in an amount to be determined based on the extent of the project's potential impact to desert tortoises.

Verification: At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall provide the CPM, USFWS, and CDFG with the final version of the Raven Plan that has been reviewed and approved by USFWS and CDFG. The CPM shall determine the plan's acceptability within 15 days of receipt of the final plan. All modifications to the approved Raven Plan must be made only after consultation with the Energy Commission Staff, USFWS, and CDFG. The project owner shall notify the CPM no less than five working days before implementing any CPM-approved modifications to the Raven Plan.

Within 30 days after completion of project construction, the project owner shall provide to the CPM for review and approval a report identifying which items of the Raven Plan have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which items are still outstanding.

9. Comment on BIO-15

This comment is provided in order to clarify that survey requirements pertain to nests for migratory birds.

PRE-CONSTRUCTION NEST SURVEYS AND IMPACT AVOIDANCE MEASURES FOR MIGRATORY BIRDS

BIO-15 Pre-construction nest surveys for migratory birds shall be conducted if construction activities will occur from February 1 through August 15. The Designated Biologist or Biological Monitor conducting the surveys shall be experienced bird surveyors and familiar with standard nest-locating techniques such as those described in Martin and Guepel (1993). Surveys shall be conducted in accordance with the following guidelines:

1. Surveys shall cover all potential migratory bird nesting habitat in the project site and within 500 feet of the boundaries of the plant site and linear facilities;
2. At least two pre-construction surveys shall be conducted, separated by a minimum 10-day interval. One of the surveys shall to be conducted within the 10 days preceding initiation of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed three weeks in any given area, an interval during which birds may establish a nesting territory and initiate egg laying and incubation;
3. If active migratory bird nests are detected during the survey, a no-disturbance buffer zone (protected area surrounding the nest, the size of which is to be determined by the Designated Biologist in consultation with CDFG, USFWS, and CPM) and a monitoring plan shall be developed. Nest locations shall be mapped using GPS technology and submitted, along with a weekly report stating the survey results, to the CPM; and
4. The Designated Biologist shall monitor the nest until he or she determines that nestlings have fledged and dispersed. Activities that might, in the opinion of the Designated Biologist and in consultation with the CPM, disturb nesting activities shall be prohibited within the buffer zone until such a determination is made.

Verification: At least 10 days prior to the start of any project-related ground disturbance activities, the project owner shall provide the CPM a letter-report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor(s); and a list of species observed. If active nests are detected during the survey, the report shall include a map or aerial photo identifying the location of the nest and shall depict the boundaries of the no-disturbance buffer zone around the nest.

10. Comments on BIO-16 and BIO-17

The Applicant requests that the requirements to perform 10-mile surveys for nesting Swainson's hawk be removed. Instead, the Applicant agrees to provide mitigation for Swainson's hawk foraging habitat as follows: 2:1 ratio for alfalfa/agricultural field impacts (5.08 acres of impact) and 1:1 ratio for impacts to Joshua tree woodlands (approximately 175 acres of impact),

provided this acreage is also suitable to satisfy Mohave ground squirrel (MGS) compensation requirements.

SWAINSON'S HAWK IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-16 The project owner shall implement the following measures to avoid and offset impacts to Swainson's hawk:

1. Pre-Construction Surveys. To assure that nesting Swainson's hawks are not disturbed by construction activities, a qualified ornithologist approved by the CDFG and CPM shall conduct pre-construction surveys prior to commencement of ground disturbing activities. Surveys will include all areas within 0.5 ~~one~~ mile of the project in regions with suitable nesting habitat for Swainson's hawks. This includes but is not limited to areas supporting Joshua Tree Woodlands and agricultural lands.~~The survey periods shall follow a specified schedule: Period I occurs from 1 January to 20 March, Period II occurs from 20 March to 5 April, Period III occurs from 5 April to 20 April, Period IV occurs from 21 April to 10 June, and Period V occurs from June 10 to July 30. No fewer than three surveys per period in at least two survey periods shall be completed immediately prior to the start of project construction~~ Survey results shall be provided to the CDFG and CPM in a written report, within 30 days of commencement of construction activities.

2. Swainson's Hawk Monitoring and Mitigation Plan. If a nest site is found within 0.5 mile of the project site, the Designated Biologist shall prepare a Swainson's Hawk Monitoring and Mitigation Plan in consultation with CDFG and Energy Commission Staff. This plan shall include detailed measures to avoid and minimize impacts to Swainson's hawks in and near the construction areas and shall also include the following:

   a. If a nest site is found, no new disturbances or other project-related activities that may cause nest abandonment or forced fledging will be initiated within 0.5 mile of an active nest between 1 March and 15 September. These buffer zones may be adjusted in consultation with the CPM and CDFG.

   b. During the nesting season (March 1 through September 15), the Designated Biologist shall be present daily, on site, during construction activities, monitoring the behavior of any nesting Swainson's hawks within 0.5 mile of the project. The Designated Biologist shall have authority to order the cessation of all construction activities within 0.5 mile of any Swainson's hawk nest if the birds exhibit abnormal nesting behavior which may cause reproductive failure (nest abandonment and loss of eggs and/or young). Construction shall not resume until the Designated Biologist has consulted with the CDFG and CPM. The Designated Biologist, CPM, and CDFG must confirm that the bird's behavior has normalized prior to the initiation of construction.

c. If construction or other project-related activities cause nest abandonment by a Swainson's hawk or forced fledging, monitoring of the nest site by a qualified biologist shall be required to determine if the nest is abandoned. If the nest is abandoned and if the nestlings are still alive, the project owner shall fund the recovery and hacking (controlled release of captive reared young) of the nestling(s). Transport to the raptor center shall only be approved by the CPM and CDFG Regional Representative.

d. If relocation of nestlings is required, the project owner shall provide a written report documenting the relocation efforts. The report shall include what actions were taken to avoid the nest, the location of the nest, the number and condition of the eggs/nestlings taken from the nest, the location of where the eggs/nestlings are incubated, the survival rate, the location of the nests where the chicks are relocated, and whether the birds were accepted by the adopted parent.

e. Nest trees for Swainson's hawks in the project area shall not be removed unless avoidance measures are determined to be infeasible. If a nest tree for a Swainson's hawk must be removed from the PHPP project area, it shall occur between 1 October and 1 February.

3. Discovery of an Injured Swainson's Hawk. If a Swainson's hawk is found injured during project-related activities on the project site, it shall be immediately relocated to a raptor recovery center approved by the CDFG Regional Representative. Any costs associated with the care or treatment of such injured Swainson's hawks shall be borne by the project owner. The Designated Representative shall immediately notify the CDFG and CPM of the incident unless the incident occurs outside of normal business hours. In that event, the CDFG and CPM shall be notified no later than noon on the next business day. Notification to the CDFG and CPM shall be via telephone or email, followed by a written incident report. Notification shall include the date, time, location, and circumstances of the incident.

Verification: Survey results shall be provided to the CDFG and CPM in a written report, within 30 days of commencement of construction activities. If pre-construction surveys detect nesting Swainson's hawks within 0.5 ~~one~~ mile of proposed construction activities, the Designated Biologist shall provide to CDFG and the CPM a Swainson's Hawk Monitoring and Mitigation Plan at least 30 days prior to the start of any project-related site disturbance activities. The project owner shall report monthly to CDFG and the CPM for the duration of construction on the implementation of Swainson's hawk avoidance and minimization measures described in the Swainson's Hawk Monitoring and Mitigation Plan. Within 30 days after completion of construction, the project owner shall provide to the CDFG and CPM a written construction termination report identifying how mitigation measures described in the plan have been completed.

No later than two calendar days following the above-required notification of a sighting, kill, injury, or relocation of a Swainson's hawk, the project owner shall deliver to the CPM and

CDFG via FAX or electronic communication the written report from the Designated Biologist describing all reported incidents of the sighting, injury, kill, or relocation of a Swainson's hawk, identifying who was notified and explaining when the incident(s) occurred. In the case of a sighting in an active construction area, the project owner shall, at the same time, submit a map (e.g., using Geographic Information Systems) depicting both the limits of construction and sighting location to the CPM and CDFG.

SWAINSON'S HAWK HABITAT COMPENSATORY MITIGATION

BIO-17 Loss of foraging habitat for Swainson's hawks shall be mitigated by providing Habitat Management (HM) lands ~~at a ratio of 2:1~~ for any foraging habitat impacted within a 10-mile radius of active Swainson's hawk nest(s) (CDFG considers a nest active if it was used one or more times within the last 5 years). The location of all active nests will be determined by conducting pre-construction surveys within a 10-mile radius of the project area or ~~and~~ by consulting with CDFG for known records. The surveys shall identify all potential nest sites and inspect all historic Swainson's hawk nests.~~The project owner shall be required to provide compensation for impacts to any foraging habitat impacted within 10 miles of an active nest.~~

a. Foraging habitat includes but is not limited to alfalfa; fallow fields; beet, tomato, onions, and other low-growing row or field crops; dry-land and irrigated pasture; and cereal grain crops (including corn after harvest), and project impacts to these foraging habitats will be mitigated at a ratio of 2:1. Joshua tree woodland shall be considered foraging habitat in the Antelope Valley, and project impacts to this foraging habitat will be mitigated at a ratio of 1:1.

b. Lands which are currently in urban use or lands that have no existing or potential value for foraging Swainson's hawks will not require mitigation. The project owner will provide the CPM and CDFG a report of potential foraging lands impacted by the proposed project as determined by consultation with the CDFG and recent site-specific surveys conducted by a CDFG-qualified raptor biologist.

Management Authorization holders/Project sponsors shall provide for the long-term management of the HM lands by funding a management endowment (the interest on which shall be used for managing the HM lands). The responsibilities for acquisition and management of the HM lands may be delegated by written agreement to CDFG or to a third party, such as a non-governmental organization dedicated to Mojave Desert habitat conservation, subject to approval by the CPM, in consultation with CDFG prior to land acquisition or management activities. The acquisition and management of HM lands shall include the following elements:

1. Selection Criteria for HM Lands. The HM lands selected for acquisition shall:

   a. Be in the western Mojave Desert;

b. Provide moderate to good quality foraging habitat for Swainson's hawk with capacity to improve in quality and value for this species; and

c. Be near lands for which there is reasonable evidence (for example, recent (<15 years) CNDDB occurrences on or immediately adjacent to the proposed lands) suggesting current occupation by Swainson's hawk ideally with populations that are stable, recovering, or likely to recover.

2. Review and Approval of HM Lands Prior to Acquisition. A minimum of three months prior to acquisition of the property, the project owner, or a third-party approved by the CPM, in consultation with CDFG, shall submit a formal acquisition proposal to the CPM and CDFG describing the parcel(s) intended for purchase. This acquisition proposal shall discuss the suitability of the proposed parcel(s) as HM lands for Swainson's hawk in relation to the criteria listed above. Approval from the CPM, in consultation with CDFG, shall be required for acquisition of all parcels in advance of purchase.

3. Mitigation Security for HM Lands and Avoidance/Minimization Measures. The project owner or an approved third party shall complete acquisition of the proposed HM lands prior to initiating ground-disturbing project activities. If Security is provided, the project owner, or an approved third party, shall complete the proposed HM lands acquisition within 12 months of the start of project ground-disturbing activities. The project owner shall also provide financial assurances to the CPM, with copies of the document(s) to CDFG, to guarantee that an adequate level of funding is available to implement all impact avoidance, minimization, and compensation measures required during construction (as described in Condition of Certification **BIO-16**) and for management of the HM lands. Financial assurance shall be provided to the CPM in the form of an irrevocable letter of credit or another form of security (Security) approved by the CPM, prior to initiating ground-disturbing project activities. If necessary to draw on these funds, such funds shall be used solely for implementation of the measures associated with the project.

4. HM Lands Acquisition Conditions. The project owner shall comply with the following conditions relating to acquisition of HM lands after the CPM, in consultation with CDFG, has approved the proposed HM lands and received Security, if any, as described above.

   a. Preliminary Report: The project owner, or approved third party, shall provide a recent preliminary title report, initial hazardous materials survey report, biological analysis, and other necessary documents for the proposed HM lands. All documents conveying or conserving HM lands and all conditions of title/easement are subject to a field review and approval by the CPM, in consultation with CDFG, California Department of General Services and, if applicable, the Fish and Game Commission and/or the Wildlife Conservation Board.

   b. Title/Conveyance: The project owner shall transfer fee title or a conservation easement to the HM lands to CDFG under terms approved by CDFG.

Alternatively, a non-profit organization qualified to manage compensation lands (pursuant to California Government Code section 65965) and approved by CDFG and the CPM may hold fee title or a conservation easement over the HM lands. If the approved non-profit organization holds title, a conservation easement shall be recorded in favor of CDFG in a form approved by CDFG. If the approved non-profit holds a conservation easement, CDFG shall be named a third party beneficiary. If a Security is provided, the project owner or an approved third party shall complete the proposed HM lands acquisition within 12 months of the start of project ground-disturbing activities.

c. Enhancement Fund. The project owner shall fund the initial protection and enhancement of the HM lands by providing the enhancement funds to the CDFG. Alternatively, a non-profit organization may hold the enhancement funds if they are qualified to manage the HM lands (pursuant to California Government Code section 65965) and if they meet the approval of CDFG and the CPM. If CDFG takes fee title to the HM lands, the enhancement fund must go to CDFG.

d. Endowment Fund. Prior to ground-disturbing project activities, the project owner shall provide to CDFG a capital endowment in the amount determined through the Property Analysis Record (PAR) or PAR-like analysis that will be conducted for the HM lands. Alternatively, a non-profit organization may hold the endowment fees if they are qualified to manage the HM lands (pursuant to California Government Code section 65965) and if they meet the approval of CDFG and the CPM. If CDFG takes fee title to the compensation lands, the endowment must go to CDFG, where it will be held in the special deposit fund established pursuant to California Government Code section 16370. If the special deposit fund is not used to manage the endowment, the California Wildlife Foundation shall manage the endowment for CDFG and with CDFG guidance.

The project owner and the CPM shall ensure that an agreement is in place with the endowment holder/manager to ensure the following conditions:

- Interest. Interest generated from the initial capital endowment shall be available for reinvestment into the principal and for the long-term operation, management, and protection of the approved HM lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the HM lands.

- Withdrawal of Principal. The endowment principal shall not be drawn upon unless such withdrawal is deemed necessary by the CDFG or the approved third-party endowment manager to ensure the continued viability of the species on the HM lands. If CDFG takes fee title to the HM lands, monies received by CDFG pursuant to this provision shall be deposited in a special deposit fund established pursuant to Government Code section 16370. If the special deposit fund is not used to manage the endowment, the California

Wildlife Foundation will manage the endowment for CDFG with CDFG guidance.

- Pooling Endowment Funds. CDFG, or a CPM- and CDFG-approved non-profit organization qualified to hold endowments pursuant to California Government Code section 65965, may pool the endowment with other endowments for the operation, management, and protection of the HM lands for local populations of Swainson's hawk. However, for reporting purposes, the endowment fund must be tracked and reported individually.

e. Reimbursement Fund: The project owner shall provide reimbursement to the CDFG or approved third party for reasonable expenses incurred during title, easement, and documentation review; expenses incurred from other state agency reviews; and overhead related to providing HM lands.

The project owner is responsible for all HM lands acquisition/easement costs, including but not limited to, title and document review costs, as well as expenses incurred from other State agency reviews and overhead related to providing HM lands to the department or approved third party; escrow fees or costs; environmental contaminants clearance; and other site clean-up measures.

Verification: No less than 90 days prior to acquisition of the property, the project owner, or a third-party approved by the CPM, in consultation with CDFG, shall submit a formal acquisition proposal to the CPM and CDFG describing the parcel(s) intended for purchase.

Draft agreements to delegate land acquisition to CDFG or an approved third party and agreements to manage HM lands shall be submitted to Energy Commission Staff for review and approval (in consultation with CDFG) prior to land acquisition. Such agreements shall be mutually approved and executed at least 60 days prior to start of any project-related ground disturbance activities. The project owner shall provide written verification to the CPM that the HM lands have been acquired and recorded in favor of the approved recipient(s). Alternatively, before beginning project ground-disturbing activities, the project owner shall provide Security in accordance with this condition. Within 90 days after the land purchase, as determined by the date on the title, the project owner shall provide the CPM with a management plan for review and approval, in consultation with CDFG, for the HM lands and associated funds.

Within 90 days after completion of project construction, the project owner shall provide to the CPM verification that disturbance to Swainson's hawk habitat has been quantified and that funds required acquire and manage the habitat have been designated.

11. Comments on BIO-20

The Applicant disagrees with the proposed mitigation ratio for MGS. Based on the isolated location of the plant site, the lack of habitat on the laydown area, and the mix of suitable and unsuitable habitat on the transmission line route and linears, the Applicant believes that a

mitigation ratio of 1:1 for the power plant site is appropriate and a 3:1 ratio for the areas of the transmission line that have suitable MGS habitat. This comment applies generally to BIO-20.

The Applicant requests removal of the requirement that compensation lands be "adjacent to" protected lands, and suggests changing the language to "adjacent to, or in the vicinity of" protected lands, to allow flexibility and agency discretion. This comment applies to BIO-20, item (1)(d).

MOHAVE GROUND SQUIRREL HABITAT COMPENSATORY MITIGATION

BIO-20 To fully mitigate for habitat loss and potential take of Mohave ground squirrel, the project owner shall acquire, in fee or in easement, no less than 366 ~~693~~ acres of land suitable for this species and shall provide funding for the enhancement and long-term management of these compensation lands. This mitigation ratio is based on a 1~~2~~:1 ratio for the power plant site and a 3:1 ratio for the transmission line route. The responsibilities for acquisition and management of the compensation lands may be delegated by written agreement to CDFG or to a third party, such as a non-governmental organization dedicated to Mojave Desert habitat conservation, subject to approval by the CPM in consultation with CDFG, prior to land acquisition or management activities. If habitat disturbance exceeds that described in this analysis, the project owner shall be responsible for acquisition and management of additional compensation lands or additional funds required to compensate for any additional habitat disturbances. Additional funds shall be based on the adjusted market value of compensation lands at the time of construction to acquire and manage habitat. The acquisition and management of compensation lands shall include the following elements:

1. Selection Criteria for Compensation Lands. The compensation lands selected for acquisition shall:
    a. Be in the western Mojave Desert;
    b. Provide moderate to good quality habitat for Mohave ground squirrel with capacity to improve in quality and value for this species;
    c. Be a contiguous block of land (preferably) or located so they result in a contiguous block of protected habitat;
    d. Be adjacent to or in the vicinity of larger blocks of lands that are already protected such that there is connectivity between the acquired lands and the protected lands;
    e. Be connected to lands for which there is reasonable evidence (for example, recent [<15 years] CNDDB occurrences on or immediately adjacent to the proposed lands) suggesting current occupation by Mohave ground squirrel, ideally with populations that are stable, recovering, or likely to recover;
    f. Not have a history of intensive recreational use, grazing, or other disturbance that might make habitat recovery and restoration infeasible;

g. Not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration; and

h. Not be encumbered by easements or uses that would preclude fencing of the site or preclude or unacceptably constrain management of the site for the primary benefit of the species and their habitat for which mitigation lands were secured.

2. Review and Approval of Compensation Lands Prior to Acquisition. A minimum of three months prior to acquisition of the property, the project owner, or a third party approved by the CPM in consultation with CDFG, shall submit a formal acquisition proposal to the CPM and CDFG describing the parcel(s) intended for purchase. This acquisition proposal shall discuss the suitability of the proposed parcel(s) as compensation lands for Mohave ground squirrel in relation to the criteria listed above. Approval from the CPM, in consultation with CDFG, shall be required for acquisition of all parcels comprising the 366 ~~693~~ acres in advance of purchase.

3. Mitigation Security for Compensation Lands and Avoidance and Minimization Measures. The project owner or an approved third party shall complete acquisition of the proposed compensation lands prior to initiating ground-disturbing project activities. If Security is provided, the project owner, or an approved third party, shall complete the proposed compensation lands acquisition within 12 months of the start of project ground-disturbing activities. The project owner shall also provide financial assurances to the CPM, with copies of the document(s) to CDFG, to guarantee that an adequate level of funding is available to implement all impact avoidance, minimization, and compensation measures described in Condition of Certification **BIO-19**. Financial assurance shall be provided to the CPM in the form of an irrevocable letter of credit or another form of security (Security) approved by the CPM, prior to initiating ground-disturbing project activities. If necessary to draw on these funds, such funds shall be used solely for implementation of the measures associated with the project.

   Prior to initiation of ground disturbance, the Security shall be provided by the project owner and approved by the CPM, in consultation with CDFG, to ensure funding in the amount of $3,846,150. These Security amounts were calculated as follows and may be revised upon completion of a Property Analysis Record (PAR) or PAR-like analysis of the proposed compensation lands:

   a. Land acquisition costs for compensation lands, calculated at $4,000/acre for 366 ~~693~~ acres: $1,464,000~~2,772,000.00~~;

   b. Costs of enhancing compensation lands, calculated at $250/acre for 366 ~~693~~ acres: $91,500 ~~173,250.00~~; and

   c. Costs of establishing an endowment for long-term management of compensation lands, calculated at $1,300/acre for 366 ~~693~~ acres: $475,800 ~~900,900.00~~

4. Compensation Lands Acquisition Conditions. The project owner shall comply with the following conditions relating to acquisition of compensation lands after the CPM, in consultation with CDFG, has approved the proposed compensation lands and received Security, if any, as described above.

   a. Preliminary Report: The project owner, or approved third party, shall provide a recent preliminary title report, initial hazardous materials survey report, biological analysis, and other necessary documents for the proposed 366 ~~693~~ acres. All documents conveying or conserving compensation lands and all conditions of title/easement are subject to a field review and approval by the CPM, in consultation with CDFG, California Department of General Services and, if applicable, the Fish and Game Commission and/or the Wildlife Conservation Board.

   b. Title/Conveyance: The project owner shall transfer fee title or a conservation easement to the 366 ~~693~~acres of compensation lands to CDFG under terms approved by CDFG. Alternatively, a non-profit organization qualified to manage compensation lands (pursuant to California Government Code section 65965) and approved by CDFG and the CPM may hold fee title or a conservation easement over the habitat mitigation lands. If the approved non-profit organization holds title, a conservation easement shall be recorded in favor of CDFG in a form approved by CDFG. If the approved non-profit holds a conservation easement, CDFG shall be named a third party beneficiary. If a Security is provided, the project owner or an approved third party shall complete the proposed compensation lands acquisition within 12 months of the start of project ground-disturbing activities.

   c. Enhancement Fund. The project owner shall fund the initial protection and enhancement of the 366 ~~693~~acres by providing the enhancement funds to the CDFG. Alternatively, a non-profit organization may hold the enhancement funds if they are qualified to manage the compensation lands (pursuant to California Government Code section 65965) and if they meet the approval of CDFG and the CPM. If CDFG takes fee title to the compensation lands, the enhancement fund must go to CDFG.

   d. Endowment Fund. Prior to ground-disturbing project activities, the project owner shall provide to CDFG a capital endowment in the amount determined through the Property Analysis Record (PAR) or PAR-like analysis that will be conducted for the 366 ~~693~~ acres of compensation lands. Alternatively, a non-profit organization may hold the endowment fees if they are qualified to manage the compensation lands (pursuant to California Government Code section 65965) and if they meet the approval of CDFG and the CPM. If CDFG takes fee title to the compensation lands, the endowment must go to CDFG, where it will be held in the special deposit fund established pursuant to California Government Code section 16370. If the special deposit fund is not used to manage the endowment, the California

Wildlife Foundation shall manage the endowment for CDFG and with CDFG guidance.

The project owner and the CPM shall ensure that an agreement is in place with the endowment holder/manager to ensure the following conditions:

- Interest. Interest generated from the initial capital endowment shall be available for reinvestment into the principal and for the long-term operation, management, and protection of the approved compensation lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the compensation lands.
- Withdrawal of Principal. The endowment principal shall not be drawn upon unless such withdrawal is deemed necessary by the CDFG or the approved third-party endowment manager to ensure the continued viability of the species on the 693 acres. If CDFG takes fee title to the compensation lands, monies received by CDFG pursuant to this provision shall be deposited in a special deposit fund established pursuant to Government Code section 16370. If the special deposit fund is not used to manage the endowment, the California Wildlife Foundation will manage the endowment for CDFG with CDFG guidance.
- Pooling Endowment Funds. CDFG, or a CPM- and CDFG-approved non-profit organization qualified to hold endowments pursuant to California Government Code section 65965, may pool the endowment with other endowments for the operation, management, and protection of the 693 acres for local populations of Mohave ground squirrel. However, for reporting purposes, the endowment fund must be tracked and reported individually.

e. Reimbursement Fund: The project owner shall provide reimbursement to the CDFG or approved third party for reasonable expenses incurred during title, easement, and documentation review; expenses incurred from other State agency reviews; and overhead related to providing compensation lands.

The project owner is responsible for all compensation lands acquisition/easement costs, including but not limited to, title and document review costs, as well as expenses incurred from other State agency reviews and overhead related to providing compensation lands to the department or approved third party; escrow fees or costs; environmental contaminants clearance; and other site clean-up measures.

Verification: No less than 90 days prior to acquisition of the property, the project owner, or a third-party approved by the CPM, in consultation with CDFG, shall submit a formal acquisition proposal to the CPM and CDFG describing the parcel(s) intended for purchase.

Draft agreements to delegate land acquisition to CDFG or an approved third party and agreements to manage compensation lands shall be submitted to Energy Commission Staff for review and approval (in consultation with CDFG) prior to land acquisition. Such agreements shall be mutually approved and executed at least 60 days prior to the start of any project-related ground disturbance activities. The project owner shall provide written verification to the CPM that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient(s). Alternatively, before beginning project ground-disturbing activities, the project owner shall provide Security in accordance with this condition. Within 90 days after the land purchase, as determined by the date on the title, the project owner shall provide the CPM with a management plan for review and approval, in consultation with CDFG, for the compensation lands and associated funds. If habitat disturbance exceeded that described in this analysis, the CPM shall notify the project owner of any additional funds required or lands that must be purchased to compensate for any additional habitat disturbances at the adjusted market value at the time of construction to acquire and manage habitat.

12. Comments on BIO-21

The Applicant requests that desert kit fox be removed from BIO-21. This species is not included in the Biological Resources Table 3 Special-Status Species, Their Status, and Potential Occurrence at the Palmdale Hybrid Power Project Site. The comment applies to PSA Pg. 4.2-22.

AMERICAN BADGER ~~AND DESERT KIT FOX~~ IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-21 Prior to ground disturbance the owner shall conduct pre-construction surveys for American badgers ~~and desert kit fox~~. These surveys may be conducted concurrent with the desert tortoise clearance surveys. Surveys shall be conducted as described below:

Biological Monitors shall perform pre-construction surveys for badger ~~and kit fox~~ dens in the project area, including areas within 250 feet of all project facilities, utility corridors, and access roads. If dens are detected, each den shall be classified as inactive, potentially active, or definitely active. Inactive dens that would be directly impacted by construction activities shall be excavated by hand and backfilled to prevent reuse by badgers ~~or kit fox~~. Potentially active dens that would be directly impacted by construction activities shall be monitored by the Biological Monitor for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand. If present, occupied badger dens shall be flagged and ground-disturbing activities avoided within 50 feet of the occupied den avoided. Maternity dens shall be avoided during the pup-rearing season (15 February through 1 July) and a minimum 200-foot buffer established. Buffers may be modified with the concurrence of CDFG and CPM.

Maternity dens shall be flagged for avoidance, identified on construction maps, and a biological monitor shall be present during construction.

If avoidance of a non-maternity den is not feasible, badgers shall be relocated by slowly excavating the burrow (either by hand or mechanized equipment under the direct supervision of the biologist, removing no more that 4 inches at a time) before or after the rearing season (15 February through 1 July). Any relocation of badgers shall occur only after consultation with the CDFG and CPM. A written report documenting the badger removal shall be provided to the CPM within 30 days of relocation.

Verification: The project owner shall submit a report to the CPM and CDFG within 30 days of completion of badger ~~and kit fox~~ surveys. The report shall describe survey methods, results, mitigation measures implemented, and the results of the mitigation.

13. Comments on BIO-22

The Applicant requests that BIO-22 be removed. Bats are included in Table 3 on pg. 4.2-22 as having only a low or moderate potential for occurrence in the project vicinity, and no bats were detected during surveys.

- The PSA states "The PHPP is not expected to result in the loss of maternity, day roosts, or hibernacula for sensitive bats. These features are not known to occur on the power plant site, and while bats utilize large trees for day roosts, the habitat on the project site (Joshua tree woodland) is generally not suited for this behavior." PSA pg. 4.2-58.
- The PSA states "In general, bats are highly mobile and it is unlikely that construction activities would result in mortality of bats in the project area. Although bats forage in the project area, most activities will occur during daylight hours when the potential for bat interactions is limited." Id.

~~**BAT AVOIDANCE AND MINIMIZATION MEASURES**~~

~~**BIO-22** Prior to ground disturbance the project owner shall conduct a survey for roosting bats within 200 feet of project activities within 15 days prior to any grading of rocky outcrops or removal of trees (particularly trees 12 inches in diameter or greater at 4.5 feet above grade with loose bark or other cavities).~~

~~The project owner shall also conduct surveys for roosting bats during the maternity season (1 March to 31 July) within 300 feet of project activities. Trees and rocky outcrops shall be surveyed by a qualified bat biologist Surveys shall include a minimum of one day and one evening. The biologist shall be approved by the Designated Biologist. If active maternity roosts or hibernacula are found, the rock outcrop or tree occupied by the roost shall be avoided (i.e., not removed) by the project, if feasible. If avoidance of the maternity roost is not feasible, the bat biologist shall survey (through the use of radio telemetry or other CDFG/CPM-approved methods) for nearby alternative maternity~~

~~colony sites. If the bat biologist determines in consultation with and with the approval of the CDFG, and CPM that there are alternative roost sites used by the maternity colony and young are not present, then no further action is required. However, if there are no alternative roosts sites used by the maternity colony, provision of substitute roosting bat habitat is required. If active maternity roosts are absent, but a hibernaculum (i.e., a non-maternity roost) is present, then exclusion of bats prior to demolition of roosts is required.~~

~~1. Provision of substitute roosting bat habitat. If a maternity roost will be impacted by the project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the project site no less than three months prior to the eviction of the colony. Alternative roost sites will be constructed in accordance with the specific bats' requirements in coordination with CDFG and the CPM. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. The CDFG shall also be notified of any hibernacula or active nurseries within the construction zone.~~

~~2. Exclude bats prior to demolition of roosts. If non-breeding bat hibernacula are found in trees scheduled to be removed or in crevices in rock outcrops within the grading footprint, the individuals shall be safely evicted, under the direction of the qualified bat biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost. This action should allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified bat biologist shall first be disturbed by various means at the direction of the bat biologist at dusk to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day (i.e., there shall be no less or more than one night between initial disturbance and the grading or tree removal). If an active maternity roost is located in an area to be impacted by the project, and alternative roosting habitat is available, the demolition of the roost site must commence before maternity colonies form (i.e., prior to 1 March) or after young are flying (i.e., after 31 July) using the exclusion techniques described above.~~

~~**Verification:** The project owner shall submit a report to the CPM and CDFG within 30 days of completion of roosting bat surveys and any subsequent mitigation. The report shall describe survey methods, results, mitigation measures implemented, and the results of the mitigation.~~

D. CULTURAL RESOURCES

1. Comments on Summary of Conclusions (page 4.3-1)

The Summary of Conclusions lists five items for which CEC Staff indicates they do not have sufficient information to analyze the Project. These items are briefly discussed below. Details pertaining to the specific location of the five sites identified under item c. will be provided to the CEC under confidential cover:

a. Land Treatment Unit: The PSA indicates that the Applicant is proposing a land treatment unit (LTU) for Heat Transfer Fluid (HTF) spill remediation. The Applicant is not proposing a LTU for this Project. This misunderstanding is due to an error in a revised table submitted by the Applicant, but has not been identified by the Applicant as a project change.

b. Earthen Berm: The soil material to be used to construct the earthen berm that will be used for visual screening along Avenue M will come entirely from onsite, and no off-site borrow areas are proposed.

c. Additional known archaeological sites: Staff identified five additional sites that require additional analysis to determine if there is a potential for the PHPP to impact them. The locations of these sites with respect to project components will be submitted under separate, confidential cover. Four of the sites are located outside of the survey corridor, and hence should not be impacted. The fifth site is located inside a fenced, restricted area on the Plant 42 Base, on the south side of Avenue M. The Applicant could not access the site and could see nothing from the fence, so it was not possible to update the site record. Drilling a hole for a transmission pole is not likely to impact the site physically.

d. Palmdale Ditch: On April 28, 2009, Staff provided informal data requests related to the location of the transmission line poles and access roads in the vicinity of the Palmdale Ditch. On May 15, 2009, the Applicant provided a response that included two diagrams showing the location of the nearest transmission pole to the Palmdale Ditch, tunnel mouth and bridge. During the PSA Workshop, CEC Staff indicated that she would provide further input on what information needed to be included on the diagrams; as of March 8, 2010, this information has not yet been provided.

e. Southern Pacific/Union Pacific Railroad Berm: Staff indicates that the PHPP could impact the historic Southern Pacific/Union Pacific Railroad (SP/UP) railroad berm in two places: 1) where the natural gas and reclaimed water pipelines that parallel to the railroad right-of-way (ROW) and Sierra Highway from Lockheed Way to E Avenue M cross into this corridor; and 2) one of the support locations along Segment 1 of the transmission line route.

The two pipelines are expected to be constructed underneath Sierra Highway and the Applicant agrees that the two pipelines will cross the historic railroad ROW at both Lockheed Way on the south and E Avenue M on the north as the pipelines cross into the Sierra Highway corridor. On July 22, 2009, a copy of a letter to CDFG from AMEC dated July 10, 2009 was docketed with the CEC. This letter contained an explanation and diagrams to demonstrate how the project owner will employ horizontal drilling (i.e., jack and bore) techniques to drill under State jurisdictional washes and avoid impacts. The same methodology would be used to bore under the railroad and railroad berm at crossings to avoid impacts to these features as well.

In terms of potential impacts from the transmission line, the pole locations are flexible to some extent. It is considered highly likely that the poles can be placed to avoid impacts to the railroad. Diagrams showing these locations are in preparation and will be provided the week of March 15, 2010.

E. LAND USE

CEC Staff indicated that she has been unable to obtain a zoning consistency determination from the City of Palmdale or the County of Los Angeles with respect to the transmission line route. The City is preparing a consistency determination and expects to submit our analysis next week. The Applicant has also attempted to contact the County on the CEC's behalf, and has not yet been able to obtain the requested information. We will continue to pursue the County in this regard and will provide any information obtained to the CEC.

F. SOIL AND WATER RESOURCES

1. General Comments

The following general comments pertaining to the Soil and Water Resources section are provided relative to the Summary of Conclusions in the PSA, and as further discussed at the PSA Workshop held on February 11, 2010:

a. Draft Construction Storm Water Pollution Prevention Plan (SWPPP)

CEC Staff have indicated that they require a draft construction SWPPP prior to issuance of the Final Staff Assessment (FSA). The Applicant is currently working on the draft construction SWPPP and expects to submit it to the CEC the week of March 15, 2010.

b. Source(s) And Disposal Of Hydrostatic Test Water

Tertiary-treated reclaimed water which complies with CCR Title 22, Division 4, Chapter 3 and Title 17, Division 1, Chapter 5 from the Los Angeles County Waterworks regional supply pipeline is proposed as the source of water for hydrostatic testing. The Applicant has concluded

that hydrostatic test water used may be disposed of in the sewer. The basis for this conclusion is as follows:

- The California Department of Health Services publishes a list of approved uses for reclaimed water and one of the approved uses is toilet flushing, that is, reclaimed water is approved to be discharged back into the sewer as long as it does not accumulate heavy metals or other harmful constituents during use.

- Most of the PHPP piping systems will be made with carbon steel. Carbon steel piping will release only a low level of contaminants, if any, into the water during testing. These low levels would not exceed the NPDES permit thresholds of Palmdale's Water Reclamation Plant (PWRP).

- Water that is used to hydrostatically test PHPP's non-carbon steel piping systems (which represent a small percentage of PHPP's piping systems), e.g., chrome steam pipes, could contain residual chromium concentrations. Therefore, hydrostatic test water from these systems would be analyzed for heavy metals prior to discharge and, if found to be above applicable PWRP NPDES limits, would be disposed of at an appropriately permitted landfill or water treatment facility.

- Since reclaimed water is acceptable in general to be sent back to a water treatment facility and since the PHPP is employing predominantly carbon steel piping systems, then the hydrostatic test water is expected to be within applicable limits established for discharge to the sewer.

c. Additional Plant Screening Berm Details

At the Workshop, CEC Staff requested additional information related to soil volume, soil compaction, and the Best Management Practices (BMPs) for the landscaped berm proposed along East Avenue M, which is designed to screen the power plant from the view of passing motorists. The Applicant has had discussions with Air Force Plant 42 regarding the portion of the berm that is planned to run a short distance along 15th Street E between PHPP and Plant 42, but this question is not yet fully answered. The additional detail regarding the berm is expected to be provided the week of March 15, 2010 upon obtaining concurrence with Plant 42 on design of the berm.

The Best Management Practices (BMPs) for the berm would include the following:

- Temporary erosion control shall be designed as depicted in the project DESCP (see DESCP CM-245 and CM-246).

- A silt fence shall be installed along the grading limit line to restrict sediment flow offsite.
- A silt fence shall also be installed at regular intervals across the ditch flow line at the tow of the berm on the north side to catch sediment flowing with storm water.
- Natural, local vegetation (including Joshua trees) shall be utilized as surface cover to protect the berm against wind and water erosion.
- Fugitive dust shall be controlled by watering the ground during construction.

d. Transmission Line Route and Phase I Analysis

CEC Staff requested confirmation of the proposed transmission line route. The Applicant confirms that the proposed route, as provided to the CEC, has not changed and is not proposed to change. In that case, Staff confirmed at the PSA Workshop that a Phase I Environmental Site Assessment (ESA) of the transmission line route is not needed.

e. Recycled Water Supply Agreement

The Recycled Water Purchase Agreement between the Applicant and the Los Angeles County Waterworks Board for the long-term supply (30 years) of tertiary-treated water for the PHPP is in the final approval stages with the Board of Waterworks and the Palmdale City Council. The agreement will specify all terms and costs for the delivery and use of recycled water to the PHPP. The Applicant expects to provide a copy of this agreement to the CEC the week of March 15, 2010.

f. Completion of Tertiary Water Treatment Systems and Supply Pipeline

At the CEC Workshop, the Applicant confirmed that completion of the tertiary water treatment systems, e.g., the Palmdale Water Reclamation Plant, which will supply tertiary treated water to the PHPP, are expected to be completed by the first quarter of 2012. The Applicant also confirmed that the reclaimed water supply pipeline from the PWRP is expected to be completed by the fourth quarter of 2011.

G. TRAFFIC AND TRANSPORTATION

The **Summary of Conclusions** in the Traffic and Transportation section of the PSA indicated that Staff requires additional information related to traffic in Lancaster and also additional information regarding the potential for impacts of thermal and visual plumes on Plant 42 operations.

The Applicant's consultant has collected additional traffic count data for three intersections in Lancaster and is completing an updated analysis of the projected level of service during construction based on this information. In addition, the City of Palmdale met with the City of

Lancaster on March 3, 2010 to discuss potential solutions. The results of this supplemental traffic analysis will be provided to the CEC during the week of March 15, 2010.

With respect to the analysis of the thermal and visible plumes, the Applicant is reviewing the engineering data and CEC modeling results, and plans to update the analyses with new data. These analyses will be based on updated cooling tower heat rejection cases provided by a cooling tower vendor on March 4, 2010. With this information, we expect to also provide a supplemental response to the CEC during the week of March 15, 2010.

H. VISUAL RESOURCES

During the PSA Workshop, Staff indicated that an additional simulation may be needed that shows what potential visible water vapor plumes could look like from the PHPP. As noted above for Traffic and Transportation, the Applicant recently obtained additional information and is updating our visible plume analyses. As discussed at the Workshop, once the updated visible plume modeling is completed, we will assess whether a simulation of the visible plume is warranted. We expect to prepare this simulation based on a view of the power plant from the west of the facility along E. Avenue M. We expect to provide a supplemental response regarding visual resources to the CEC during the week of March 15, 2010.

As noted in the comments on Soil and Water Resources above, the Applicant is also in discussions with Plant 42 regarding the berm that will be used to screen the power plant from motorists along E Avenue M. Concurrence with the proposal from Plant 42 is expected to be obtained in the near term.

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

APPLICATION FOR CERTIFICATION for the *PALMDALE HYBRID POWER PROJECT*

Docket No. 08-AFC-9

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(Revised 3/2/2010)

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DECLARATION OF SERVICE

I, Sara J. Head, declare that on, March 9, 2010, I served and filed copies of the attached **CITY OF PALMDALE'S COMMENTS ON VOLUME 2 OF THE PRELIMINARY STAFF ASSESSMENT FOR THE PALMDALE HYBRID POWER PROJECT**. 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/palmdale/index.html]**.

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

(*Check all that Apply*)

For service to all other parties:

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

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

AND

For filing with the Energy Commission:

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

OR

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CALIFORNIA ENERGY COMMISSION
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1516 Ninth Street, MS-4
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I declare under penalty of perjury that the foregoing is true and correct.