STATE OF CALIFORNIA – THE RESOURCES AGENCY
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

Edmund G. Brown, *Governor*

California Energy Commission
DOCKETED
09-AFC-7C
TN # 69756
MAR. 01 2013

March 1, 2013

Mr. Scott Galati
Galati/Blek, LLP
455 Capitol Mall Suite 350
Sacramento, CA 95814

RE: PALEN SOLAR PROJECT AMENDMENT (09-AFC-7C)
DATA REQUEST SET 1 (Nos. 1-18)

Dear Mr. Galati:

The Energy Commission staff has reviewed the Petition for Amendment (Petition) for the Palen Solar Electric Generating System (PSEGS) and requires additional information to supplement the environmental analysis pursuant to Title 20, California Code of Regulations, Section 171669(a)(1)(E). The California Energy Commission staff seeks the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project; 2) assess whether the facility will be constructed and operated in compliance with applicable regulations; 3) assess whether the project will result in significant environmental impacts; 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner; and 5) assess potential mitigation measures.

This set of data requests (Nos. 1-18) is being made in the areas of: Biology (Nos. 1-5), Soil and Water Resources (Nos. 6-8), Traffic and Transportation (Nos. 9-17), and Transmission System Engineering (No. 18). Staff requests that written responses to the enclosed data requests be provided on or before April 1, 2013.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to both the Committee and me within 20 days of receipt of this information request. The notification should contain the reasons for not providing the information and the grounds for any objections.

If you have any questions, please call me at (916) 654-4745 or email me at christine.stora@energy.ca.gov.

Sincerely,

Christine Stora

Christine Stora
Compliance Project Manager

Enclosure
Data Requests

Technical Area: Biological Resources
Author: Ann Crisp

BACKGROUND: BIOLOGICAL RESOURCE SURVEYS

Many documented occurrences of special-status wildlife species occur within the approved project's disturbance area. In the December 2012 Petition to Amend (Petition), the project owner states that the biological resource surveys performed for the approved project are sufficient for the modified project. However, the Petition identifies two new areas of impact for the re-routing of the generation tie-line near the western end of the route and around the newly constructed Red Bluff Substation and a new extension of the existing Southern California Gas (SoCal Gas) distribution system to the project boundary for natural gas delivery. According to the Petition, the modified generation tie-line route was previously surveyed by the Desert Sunlight Project (currently under construction) and the Eagle Mountain Pumped Storage Project. The project owner intends to file these survey results under separate cover, but staff has not yet received them. Because these projects were not reviewed by the California Energy Commission, the surveys may not have followed recommended protocols or staff's *Recommended Biological Resources Field Survey Guidelines for Large Solar Projects* (April 2009) (see Attachment 1). In addition, surveys may not be recent enough to be acceptable. Survey data for desert tortoise are only valid for one year. Staff is concerned that if the survey data the project owner is planning to submit is not acceptable and the necessary surveys are not initiated soon, the survey window for desert tortoise and burrowing owl will be missed for this year. Biological resource survey results for any areas not surveyed for the approved project are necessary for staff to analyze the potential impacts of the modified project.

Data Requests:

1. Please conduct vegetation community mapping for any new project features of the modified project that have not been previously mapped following the survey protocols utilized for the approved project and include the 1,000-foot buffer along linear features per the Siting Regulations. This includes mapping along the modified generation tie-line route, the new gas pipeline, and any other areas not previously surveyed. Please provide a report summarizing the results of vegetation community mapping which includes survey protocols utilized, methods, and results as well as impact analysis and mitigation recommendations once surveys are complete. Please provide maps and the electronic files (raw GPS data and metadata) for vegetation communities mapped and include the boundary of the biological resource survey area. Please provide the names and qualifications of personnel who will be conducting the surveys prior to conducting surveys.

2. Please conduct special status wildlife species surveys for any new project features of the modified project. This includes along the modified generation tie-line, the new gas pipeline, and any other areas not previously surveyed. Surveys for general special status wildlife species should follow the survey guidelines

developed for the approved project (Biological Resources Technical Report (EDAW AECOM 2009) and include the 1,000-foot buffer along linear features, per the Siting Regulations (Appendix B). However, survey methods for desert tortoise and burrowing owl have been updated since the project was approved. Surveys for desert tortoise should follow the desert tortoise protocol *Preparing for Any Action That May Occur Within the Range of the Mojave Desert Tortoise* (*Gopherus agassizii*) (USFWS 2010) (http://www.fws.gov/ventura/species_information/protocols_guidelines/docs/dt/DT%20Pre-project%20Survey%20Protocol_2010%20Field%20Season.pdf) and surveys for burrowing owl should follow the newly revised survey methods in the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012) (http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf). Please provide a report which includes all required information from the survey protocols, methods, and results as well as impact analysis and mitigation recommendations once surveys are complete. Please provide maps and the electronic files (raw GPS data and metadata) and CNDDB field forms for any special-status wildlife species detected and include the boundary of the biological resource survey area. Please provide the names and qualifications of personnel who will be conducting the surveys prior to conducting surveys.

BACKGROUND: RARE PLANT SURVEYS

Several documented occurrences of special-status plants occur at the Palen site including known locations of Harwood's woolly-star (*Eriastrum harwoodii*), Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*), ribbed cryptantha (*Cryptantha costata*), California ditaxis (*Ditaxis serrata* var. *californica*), and "Palen Lake saltbush" (*Atriplex* sp. nov. Andre). Due to the potential presence of late season blooming plants the project owner conducted both spring and summer-fall botanical surveys as part of rare plant surveys for the approved project. The spring surveys were conducted between February and April 2009, and fall surveys were conducted in October 2010 based upon the weather pattern of the year in which the surveys were conducted. Rare plant survey data are needed for the modified generation tie-line route, the new gas pipeline, and any other areas not previously surveyed. As discussed earlier, survey results from the Desert Sunlight and Eagle Mountain Pumped Storage projects may not be adequate or recent enough to be acceptable. Per the CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2009) (see hyperlink above),* desert plant communities that have annual and short-lived perennial plants as major floristic components may require yearly surveys to accurately document baseline conditions for purposes of impact assessment. Staff is concerned that if the survey data the project owner is planning to submit is not acceptable and if the necessary surveys are not initiated soon, the survey window for rare plants potentially occurring in the project area will be missed for this year. Biological resource survey results for any areas not surveyed for the approved project are necessary for staff to analyze the potential impacts of the modified project. Without spring and fall survey results for special status plants for all new project features of the modified

project, staff has insufficient information to complete an analysis of impacts to rare plants or assess alternatives that would avoid potential habitats.

Data Requests:

3. Spring Survey Plan for Special-Status Plants. Please submit a Special-Status Plant Survey Plan for spring 2013 floristic surveys along the modified generation tie-line route, new gas pipeline, and any other areas not previously surveyed. Include the following components:

    a. Spring Survey Plan. Develop a study plan for the field surveys that is consistent with the CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009) (http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf) and BLM *Survey Protocols Required for NEPA/ESA Compliance for BLM Special Status Plant Species* (BLM 2009) (http://www.blm.gov/ca/dir/pdfs/2009/im/CAIM2009-026ATT1.pdf). Surveys shall include the 1,000-foot buffer along linear features, per the Siting Regulations (Appendix B). The project owner should also abide by BLM guidance/requirements regarding mapping/surveying for succulents/yucca/barrel cactus. If development of the site is approved by BLM, BLM will require salvage and transplantation of the succulents. A count of the number of barrel cacti, Joshua trees, or Mojave yuccas should be compiled. BLM requests photographic documentation of any BLM sensitive species found. Please include the names and qualifications of personnel who will be conducting the surveys.

    b. Expert Consultation/Voucher Collections. Consult with recognized experts on special status species potentially occurring in the survey area to assess the suitability of the habitat on site to support special status plants, and the potential for species to occur in the project area.

    c. Schedule. Provide a schedule for accomplishing the tasks listed above and for submitting a report describing the results of the surveys.

    d. Spring Survey Report. Provide a report summarizing the methods and results as well as impact analysis and mitigation recommendations once surveys are complete. The Spring Survey Report should be prepared consistent with CDFW guidelines (CDFW 2009), and BLM 2009 guidelines. Please provide the electronic files (raw GPS data and metadata) and CNDDB field forms for any special-status species populations detected.

4. Fall Surveys. Fall surveys along the modified generation tie-line route, the new gas pipeline, and any other areas not previously surveyed, shall follow all requirements

of Condition of Certification BIO-19 (Special-Status Plant Impact Avoidance, Minimization, and Compensation) Section B: Conduct Late-Season Botanical Surveys in the Biological Resources section of the Final Commission Decision for the approved project (09-AFC-07).

BACKGROUND: GENERAL SPECIES IMPACTS

The project owner is proposing to reconfigure the site and reduce the project footprint as well as use BrightSource's solar power tower technology rather than solar parabolic trough technology. The Petition and Supplemental Information (February 2013) provides a list of potential environmental benefits from the proposed changes and states that overall disturbance - when considering total acres disturbed - from the Modified Project configuration and layout is reduced. However, the project owner did not demonstrate how the use of solar power tower technology and changes to construction phasing as well as the construction and operation of the modified project would change direct and indirect impacts on biological resources compared to the approved project. The approved project would disturb the entire project site for installation of solar parabolic trough technology. However, the modified project reduces grading across the solar field and open spaces will be preserved and left undisturbed, maintaining existing vegetation to the extent possible with respect to site topography and access requirements. These undisturbed areas could provide an attractant to wildlife by providing marginal habitat within the project site. In addition, relocated or displaced burrowing owl are tenacious about returning to their familiar burrows and are inclined to move back to the impact site if the site is still visible to the owl and/or if the impact site is not completely graded (Bloom, pers. comm.). Maintenance activities such as mowing and vegetation clearing could impact species if found in these areas during vegetation management.

Data Request:

5. Please discuss any potential direct and indirect impacts from the modified project, compared to the approved project in terms of changes to site configuration (e.g. construction phasing, new common area, generation tie-line and natural gas supply line, etc.), construction (e.g. heliostat field preparation), operation and maintenance activities (e.g. road and utility corridor maintenance and vegetation management such as mowing, etc.), and any other new project features/activities.

Technical Area: Soil and Water Resources
Author: Marylou Taylor

BACKGROUND

Erosion and Sedimentation

The modified project proposes substantial changes to the site hydrology compared to the approved project. The modified project removes the three major drainage channels from the approved project that was designed to route the water through and around the entire field of solar troughs. Instead, the heliostat technology of the modified project would allow most flows to maintain existing, pre-project natural drainage patterns through the solar fields. Although the modified project would reduce the impacts of water diversion compared to the approved project, the substantial changes in hydrology could potentially recreate a new set of impacts that were not analyzed during assessment of the approved project.

On February 8, 2013, Palen Solar Holdings, LLC (PSH) submitted a Post-Construction Hydrologic and Hydraulic Analysis for the modified project. The purpose of this analysis is to provide a determination of the difference in runoff volume and peak flows between the Existing Condition and the Post-Construction analyses of the modified project. After initial review of this report, staff notes that it is missing relevant information that PSH stated in the Petition would be included in this report or submitted under separate cover.

Data Requests:

6. Section 5.2.3 of the Petition states that the Post-Construction Hydrologic and Hydraulic Analysis would address the scour potential of the heliostat pylons. Please provide information showing pylon penetration depths that would provide enough lateral support and to guard against the potential for scour during significant flood events.

7. Section 2.13.1.1 of the Petition states that the modified project's Construction Storm Water Pollution Prevention Plan (SWPPP) would be provided under separate cover. Please provide a Construction SWPPP and/or a Drainage, Erosion, and Sediment Control Plan (DESCP) that implements appropriate best management practices (BMPs) to protect areas disturbed by grading and other ground disturbance from erosion.

BACKGROUND

Waste Discharge Requirements

The modified project would eliminate the use of heat transfer fluid and reduce the amount of process waste water compared to the approved project. As a result, the modified project would reduce the number of evaporation ponds, from two-4 acre to two-2 acre evaporation ponds. Although this would be a reduction of impacts, it would require revised Waste Discharge Requirements (WDRs) to reflect the modified project.

This process must be coordinated with the Colorado River Basin Regional Water Quality Control Board (RWQCB), including formal adoption of the WDRs prior to operations.

Data Request:

8. Please submit an updated Report of Waste Discharge (Form 200) with the necessary supplemental information to the Colorado River Basin RWQCB. Please provide Energy Commission staff with copies of correspondence between the applicant and the Colorado River Basin RWQCB regarding this issue.

Technical Area: Traffic and Transportation
Author: Andrea Koch

BACKGROUND: MAXIMUM NUMBER OF EMPLOYEES PER SHIFT

Page 6.3-2 of the Petition to Amend states that the Modified Project would have 100 operation workforce employees.

Data Request:

9. Please state the maximum number of employees for each shift.

BACKGROUND: CARPOOLING DURING CONSTRUCTION

Page 6.3-1 of the Petition to Amend states:

"The average number (of) day shift workers would be 790. The peak number of day shift workers will be 1,700. Assuming 7.5% of all day shift workers utilize carpooling, the number of average daily (one-way) trips generated will be 1,461 per day and peak daily trips generated will be 3,145."

Staff checked these calculations, as shown below:

Average daily one-way trips assuming 7.5 percent carpool:

- 790 day shift workers (0.075 carpooling rate) = 59.25, or 59 workers carpooling
- 790 day shift workers – 59 workers carpooling = 731 workers drive alone
- (731 workers not carpooling)(2 one-way trips per day) = 1,462 one-way trips per day, but this does not include the carpooling workers. This is a similar number to the 1,461 one-way trips per day given in the Petition to Amend, meaning that the Petition to Amend does not appear to account for the number of trips made by carpooling workers.

Peak daily one-way trips assuming 7.5 percent carpool:

- 1,700 peak day shift workers (0.075) = 127.5, or about 128 workers carpooling
- 1,700 peak day shift workers – 128 workers carpooling = 1,572 workers drive alone
- (1,572 workers not carpooling)(2 one-way trips per day) = 3,144 one-way trips per day, but this does not include the carpooling workers. This is a similar number to the 3,145 one-way peak trips per day given in the Petition to Amend, meaning that the Petition to Amend does not appear to account for the number of trips made by carpooling workers.

Data Requests:

10. Please explain the reasoning for assuming that 7.5 percent of workers would carpool.

11. Where would workers meet up to share a ride (the hotel, a park-and-ride lot, etc.)?

12. For the carpooling workers, please estimate the average number of workers per car.

13. In the estimates for average daily one-way trips and peak daily one-way trips, please account for the number of vehicle trips made by carpooling workers.

BACKGROUND: LEVEL OF SERVICE (LOS) DURING CONSTRUCTION

The staff analysis for the original Palen project included projected level of service (LOS) during project construction at the following roadways and intersections:

- I-10 west of the project site
- I-10 east of the project site
- Corn Springs Road
- I-10 westbound ramps/Corn Springs Road
- I-10 eastbound ramps/Corn Springs Road

The Modified Project would create more construction traffic than the originally approved project, so staff needs additional traffic data for the Modified Project.

Data Request:

14. For average daily construction and peak daily construction, please include tables showing: the existing LOS for each roadway and intersection; and the approximate number of project-related daily one-way trips occurring on each of the above roadways and intersections, with the resulting LOS. Please account for carpooling workers, as discussed in Data Request #13 (above).

For the existing LOS data, please identify your sources.

BACKGROUND: FAA NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

Title 14, Subpart B, Section 77.9 of the Code of Federal Regulations requires proponents of any construction exceeding 200 feet above ground level to notify the Federal Aviation Administration (FAA). The project's two solar towers would each be

750 feet in height, requiring the applicant to file Form 7460-1 “Notice of Proposed Construction or Alteration” for each tower.

Data Requests:

15. For each solar tower, please submit Form 7460-1 “Notice of Proposed Construction or Alteration” to the FAA, and provide a copy of the submittal to Energy Commission staff.

16. Once the FAA has completed review of the proposed towers, please provide a copy of the findings to Energy Commission staff.

BACKGROUND: TRUCK TRIPS

Page 6.3-2 states: “With the Modified Project, truck trips are forecasted to generate an average of 20 daily truck trips per hour with a peak of 45 daily truck trips per hour. The Approved Project was forecasted to generate an average of approximately 20 to 30 daily one-way truck trips, with a peak of approximately 40 daily one-way truck trips.”

Data Request:

17. It appears that for the Modified Project, the truck trips should be expressed as “daily truck trips” instead of “daily truck trips per hour”. Please confirm whether this is true.

Technical Area: Transmission System Engineering
Authors: Laiping Ng

BACKGROUND

The California Environmental Quality Act (CEQA) requires the identification and description of the "Direct and indirect significant effects of the project on the environment." The Application for Certification requires discussion of the "energy resource impacts which may result from the construction or operation of the power plant." For the identification of impacts on the transmission system resources and the indirect or downstream transmission impacts, staff relies on the Phase I and Phase II Interconnection Studies for insuring the interconnecting grid meets the California Independent System Operator (California ISO) reliability standards. The studies analyze the effect of the proposed project on the ability of the transmission network to meet reliability standards. When the studies determine that the project will cause a violation of reliability standards, the potential mitigation or upgrades required to bring the system into compliance are identified. The mitigation measures often include the construction of downstream transmission facilities. CEQA requires the analysis of any downstream facilities for potential indirect impacts of the proposed project. Without a complete Phase I or Phase II Interconnection Study, staff is not able to fulfill the CEQA requirement to identify the indirect effects of the proposed project.

Data Request:

18. Please provide written confirmation from the California ISO that the existing Phase I and Phase II generator interconnection studies are applicable to the new plant configuration and on-line date. If the California ISO Phase I and/or Phase II Interconnection Studies will need to be updated, please provide the updated studies.

ATTACHMENT 1

DRAFT 04/2/2009

CALIFORNIA ENERGY COMMISSION - Recommended Biological Resources Field Survey Guidelines for Large Solar Projects

Based on the following guidelines, provide your proposed biological resource survey parameters to the Energy Commission for review and comment prior to beginning field work.

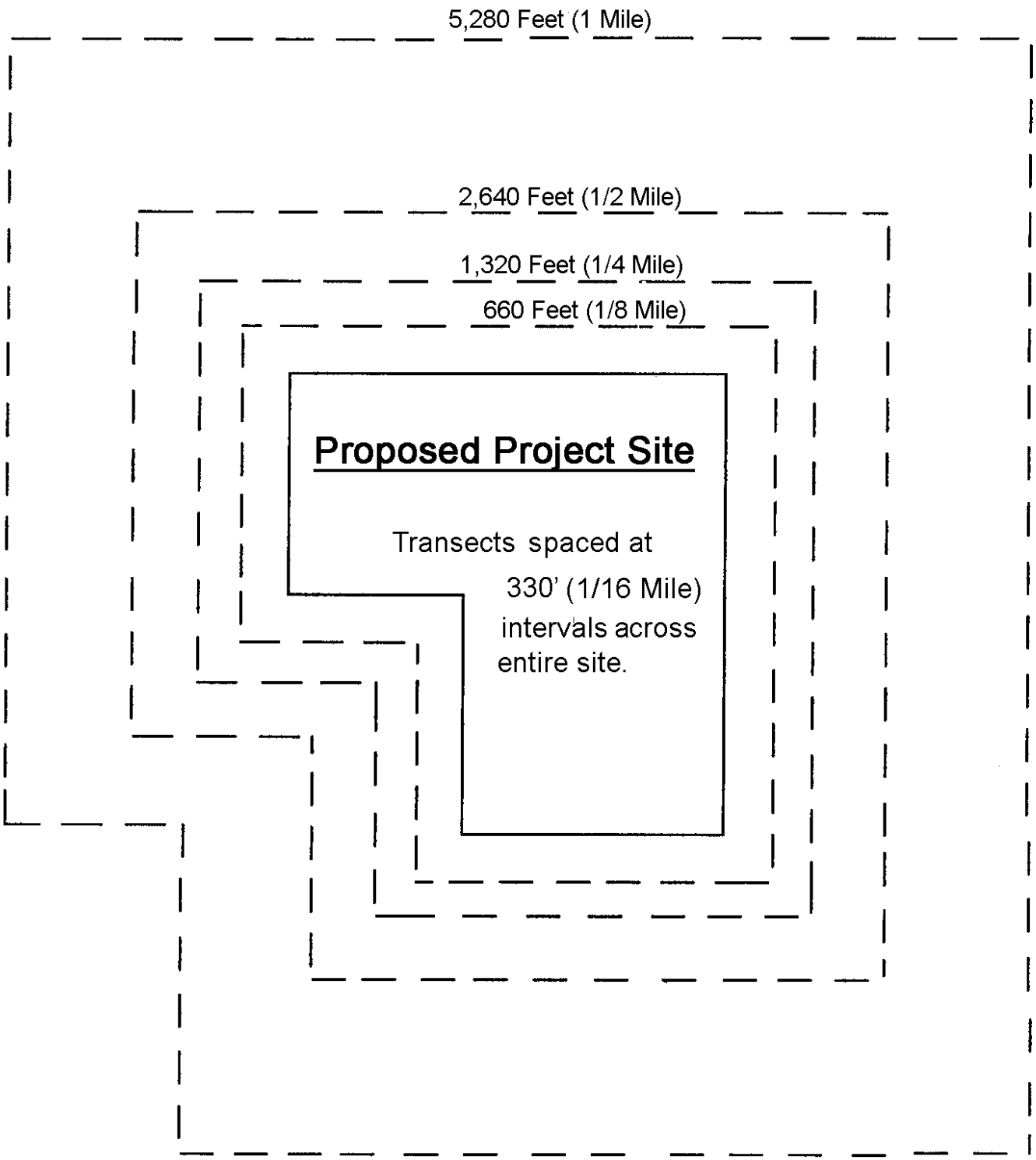
PROJECT FEATURES AND BUFFER	***If Sensitive Species Survey Protocols Exist (e. g. desert tortoise & Mojave ground squirrel)***	***Recommended Wildlife Surveys If Sensitive Species Survey Protocols DON'T Exist***	***Sensitive Plant Surveys***
Project Site	Follow U.S. Fish and Wildlife Service (USFWS) / California Department of Fish and Game (CDFG) survey protocols regarding transect/trap-line spacing Include incidental observations of other species when compiling and mapping[3] survey results	Transects spaced at 330' intervals (every 1/16th of a mile) across entire site Example: A 1-square-mile project site would require 17 wildlife transects for 100% edge to edge coverage	Follow Botanical Survey Guidelines available from the California Native Plant Society (CNPS)[1] and CDFG[2] [It is insufficient to simply cite these protocols in the AFC; please provide details such as survey method(s) and date(s), surveyor name(s), and qualifications. Botanical survey methods vary depending upon species, time of year when species is most identifiable, identification ease/difficulty, site visibility, and vegetation type(s). Reference sites should be visited in advance to familiarize surveyors with target species and check phenology.]
Buffer area 'within 1 mile of the project site' [Per Siting Regulations Section (13) (B) - April 2007, p. 98 - Include a list of the species actually observed and those with a potential to occur within 1 mile of the project site and 1,000 feet from the outer edge of linear facility corridors.]	● Follow survey protocols out to required distance (out to 2400' for desert tortoise and possibly 4800', if USFWS required) ● For area beyond 2400' and out to 1 mile, complete one additional transect at 3960' (3/4 mile) and another at 5280' (1 mile) ● For all transects, document incidental observations of other species and include them when compiling and mapping[3] survey results	4 transects covering area out to 1 mile from the project site – Transects located at 660' (1/8th mile), 1320' (1/4 mile), 2640' (1/2 mile), and 5280' (1 mile) (See attached diagram) Map[3] survey results	Map vegetation and focus buffer area field surveys on areas likely to contain sensitive plants. Conduct 'ground truthing' to verify mapped vegetation. Map survey results in accordance with CNPS or CDFG guidelines referred to above
Linear Facilities [Per Siting Regulations Section (13) (B) - April 2007, p. 98 - Include a list of the species actually observed and those with a potential to occur within 1 mile of the project site and 1,000 feet from the outer edge of linear facility corridors.]	● Follow survey protocols – completed surveys within corridor and out to prescribed distance from the outer edges of the corridor ● Energy Commission Siting Regulations require field survey information for area out to 1000 feet from the outer edges of a linear facility corridor. USFWS survey spacing protocols will be adequate within the 1000' survey area. ● For all transects, document incidental observations of other species and include them when compiling and mapping[3] survey results	● Including a center line transect, additional transect spacing within a 75-100' corridor can be approximately every 30 feet on either side of the center line out to the corridor edge, however this can vary depending upon the corridor vegetation characteristics ● From outermost edges of anticipated work corridor, complete 4 transects (0, 330', 660', and 1000') (See attached diagram) ● Map[3] survey results	Follow Botanical Survey Guidelines available from CNPS[1] and CDFG[2].
Linear Facilities past first point of interconnect	Plot California Natural Diversity Data Base (CNDDB) data (no more than 6 months old) on base map	Plot CNDDB data on base maps (no more than 6 months old)	Map vegetation and discuss CNDDB sensitive plant data (no more than 6 months old) for known sensitive plant occurrences and also those sensitive plants species that are likely to occur within or near linear facility corridor

[1] CNPS Botanical Survey Guidelines can be found at http://www.cnps.org/cnps/rareplants/inventory/guidelines.php
[2] CDFG Plant Survey Guidelines can be found at http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/guideplt.pdf
[3] Map scale and format shall be in accordance with Siting Regulations Section (13) (B) (i)- April 2007, p. 98, or another scale and format deemed suitable by CEC technical staff on a case by case basis

CALIFORNIA ENERGY COMMISSION

Recommended Transect Spacing for Biological Resources Field Surveys

(Draft 05/23/2007)



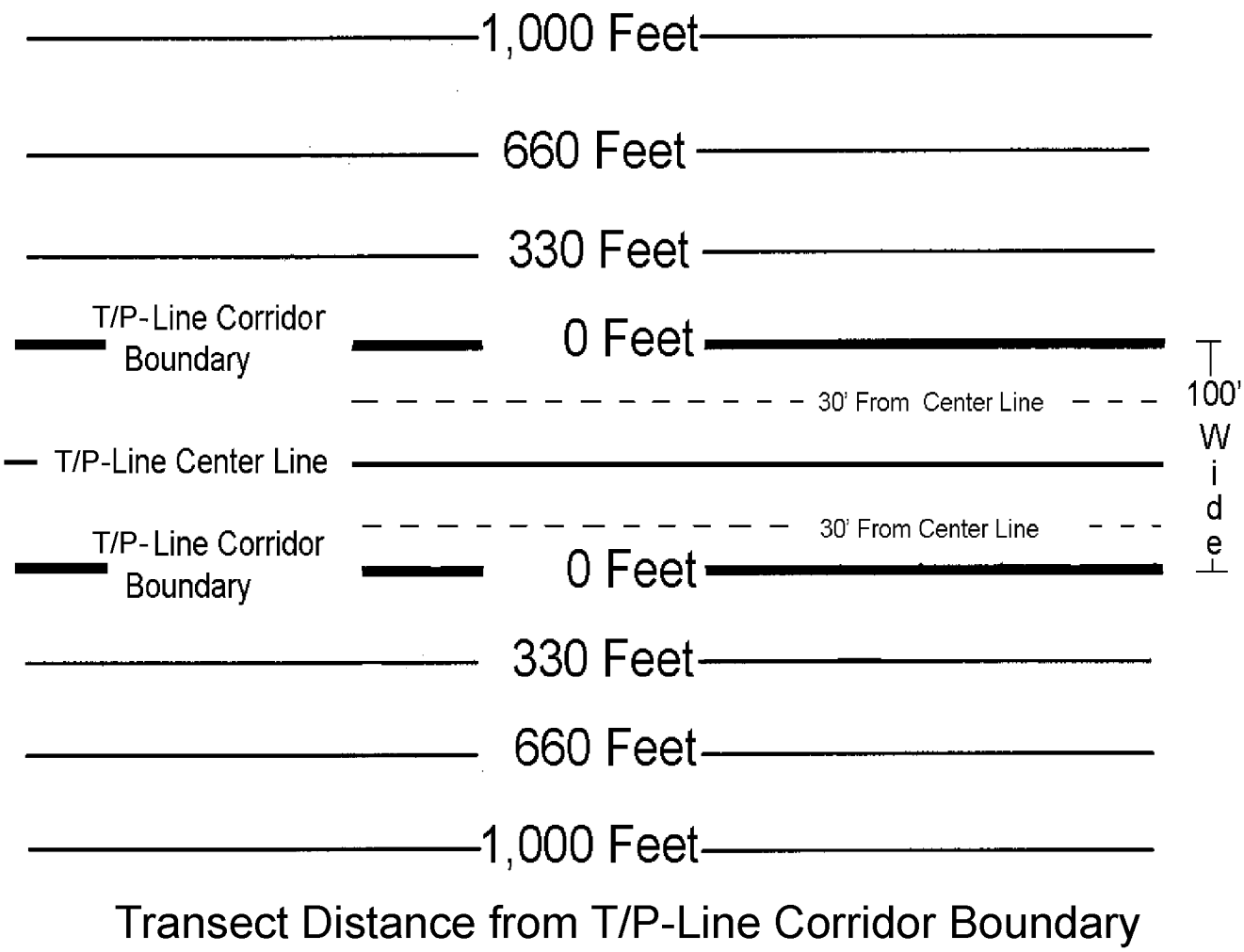
Adapted from USFWS (January 1992)

Attachment 1

CALIFORNIA ENERGY COMMISSION

Recommended Transect Spacing for Biological Resources Field Surveys - Linear Facilities

(Draft 05/23/2007)



Attachment 2