



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 5, 2015

Mr. Edward D. Halpin
Senior Vice President and
Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Power Plant
P.O. Box 56, Mail Code 104/6
Avila Beach, CA 93424

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION RELATED TO THE
ENVIRONMENTAL REVIEW OF THE DIABLO CANYON POWER PLANT,
UNITS 1 AND 2, LICENSE RENEWAL APPLICATION (CAC NOS. MF4019
AND MF4020)

Dear Mr. Halpin:

On November 23, 2009, Pacific Gas & Electric Company (PG&E) submitted an application pursuant to Title 10 of the *Code of Federal Regulations* (CFR) Part 54 to the U.S. Nuclear Regulatory Commission (NRC) for renewal of operating licenses DPR-80 and DPR-82 for Diablo Canyon Power Plant (DCPP), Units 1 and 2. In accordance with 10 CFR Part 51, PG&E submitted an environmental report as an appendix to the license renewal application for DCPP. On December 22, 2014, and February 25, 2015, PG&E amended its environmental report to incorporate additional information necessary for the NRC staff to complete its review of the DCPP license renewal application. The staff is reviewing the information contained in the environmental report, as amended, and has identified in the enclosure, areas where additional information is needed to complete the review.

These requests for additional information were discussed with Terry Grebel and a mutually agreeable date to respond is within 30 days from the date of this letter. If you have any questions, please contact me at (301) 415-6459, or by e-mail at michael.wentzel@nrc.gov.

Sincerely,

/RA/

Michael J. Wentzel, Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosure:
As stated

cc w/encl: Listserv

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DISTRIBUTION: See next page

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*concurrence via email

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NAME	IBetts	MWentzel	JDanna	MWentzel
DATE	10/29/15	11/2/15	11/3/15	11/5/15

OFFICIAL RECORD COPY

Letter from M. Wentzel to E. Halpin dated November 5, 2015.

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION RELATED TO THE
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**DIABLO CANYON POWER PLANT, UNITS 1 AND 2
LICENSE RENEWAL APPLICATION ENVIRONMENTAL REVIEW
REQUESTS FOR ADDITIONAL INFORMATION**

Alternatives

- ALT-1 Identify the available acreage and locations on the Diablo Canyon Power Plant, Units 1 and 2 (DCPP), site that would be suitable for siting replacement power generation.
- ALT-2 Clarify whether 2012 state generating capacities or utilization presented in Section 7.2 of the environmental report (ER) (Amendment 2) were factored into the composition of the energy sources considered in the Combination Alternative.
- ALT-3 Clarify whether any components of the combination alternative would be sited outside of the Pacific Gas and Electric (PG&E) service area.
- ALT-4 Clarify the basis for the solar photovoltaic acreage estimates discussed on pages 7.2-9, 7.2-11, and 7.2-21.
- ALT-5 Provide the data sources that were consulted to support the discussion and associated conclusions regarding the feasibility of Compressed Air Energy Storage technology.
- ALT-6 Section 4.2.5 of the ER (Amendment 1) references studies that have been conducted which address retrofitting DCPP to closed-cycle cooling. Please indicate whether the applicant has conducted any additional DCPP closed-cycle cooling alternative analyses or associated screening studies since publication of the 2014 report prepared by Bechtel Power Corporation (reference 27 as listed in ER (Amendment 1), Section 4.22).

Aquatic Ecology

- AQ-1 Section 2.2.1 of the ER, "Marine Ecology," describes the various aquatic monitoring efforts that have occurred near DCPP since 1976, including the Thermal Effects Monitoring Program; the Marine Ecological Monitoring Program; and the Receiving Water Monitoring Program (RWMP). For the species listed below, provide the mean for each species at each sampling station for each survey conducted between 1976 through 2014. Provide the data in an Excel file, as well as a description of the station designation and the station areas.

a) Algae

- i) Bull kelp (*Nereocystis luetkeana*)
- ii) Feather-boa kelp (*Egregia menziesii*)
- iii) Hollow-branched seaweed (*Gastroclonium subarticulatum*, formerly *G. coulteri*)
- iv) Iridescent seaweed (*Mazzella flaccida*, formerly *Iridaea flaccida*)
- v) Oar-blade kelp (*Laminaria dentigera*)
- vi) Tree kelp (*Pterygophora californica*)
- vii) Un-named red seaweed (*Chondracanthus canaliculatus*, formerly *Gigartina canaliculata*)

b) Invertebrates

ENCLOSURE

- i) Aggregating sea anemone (*Anthopleura elegantissima*)
- ii) Black abalone (*Haliotis cracherodii*)
- iii) Brown turban snail (*Chlorostoma brunnea*, formerly *Tegula brunnea*)
- iv) Kelp crab (*Pugettia producta*)
- v) Ochre starfish (*Pisaster ochraceus*)
- vi) Purple sea urchin (*Strongylocentrotus purpuratus*)
- vii) Red abalone (*Haliotis rufescens*)
- viii) Red sea urchin (*Strongylocentrotus franciscanus*)
- ix) Rock crab (*Cancer antennarius*)
- x) Sun stars (*Pycnopodia helianthoides*)
- xi) White abalone (*Haliotis sorenseni*)

c) Fish

- i) Blue rockfish (*Sebastes mystinus*)
- ii) Cabezon (*Scorpaenichthys marmoratus*)
- iii) Coho salmon (*Oncorhynchus kisutch*)
- iv) Green sturgeon (*Acipenser medirostris*)
- v) Gopher rockfish (*Sebastes carnatus*)
- vi) Rock prickleback (*Xiphister mucosus*)
- vii) Steelhead trout (*Oncorhynchus mykiss*)
- viii) Starry flounder (*Platichthys stellatus*)
- ix) Pacific sardine (*Sardinops sagax*)
- x) Common thresher (*Alopias vulpinus*)

AQ-2 Section 2.2.1.2 of the ER, "Species/Habitat Inventories, Marine Mammal Resources," states that no known or recorded incidents of marine mammal injuries or fatalities have occurred due to power plant operations through 2014. The NRC staff is aware of three reports of marine mammal strandings at DCCP in 2015 (February 22, March 16, and May 6). In each case, PG&E reported to the NRC that the death was likely attributable to natural causes and verbal notification of the incident was reported to National Oceanic and Atmospheric Administration (NOAA) Fisheries. Describe any comments or letters received from NOAA Fisheries in response to the marine mammal strandings report, especially in regards to the cause of death.

AQ-3 Section 2.2.2.1 of the ER, "Species and Relative Abundance," was revised to describe recent rainbow trout and steelhead (*Oncorhynchus mykiss*) studies in Diablo Creek and Coon Creek. In addition, a discussion of other aquatic resources in these creeks was deleted in Section 2.2.2.2. Provide a description of the aquatic resources in Diablo Creek and Coon Creek, other than *O. mykiss*.

AQ-4 Section 4.1 of the ER, "Entrainment of Fish and Shellfish in Early Life Stages," states that PG&E has had extensive communications and consultations with the Central Coast Regional Water Quality Control Board (CCRWQCB), the California State Water Resource Control Board (SWRCB), and the California Department of

Fish and Wildlife. Provide copies of all letters and communications to and from these agencies regarding impingement, entrainment, and heat shock since 2010. Indicate if PG&E anticipates or is aware of the need to conduct any additional studies related to impingement, entrainment, or heat shock, or any studies that may be conducted by State agencies or other organizations on these topics.

- AQ-5 Section 4.1 of the ER, "Entrainment of Fish and Shellfish in Early Life Stages," states that "during the current period of operation, available data from both DCPD specific ecological studies, as well as independent studies of regional marine fisheries, provide evidence that local populations of fish susceptible to entrainment in larval stages have remained relatively stable...The conclusion from the extensive data from past and ongoing monitoring has shown that overall population decreases have not occurred, and the local marine ecosystem remains healthy." Describe the basis for this statement, including the references for studies that would support this statement.
- AQ-6 Section 4.4 of the ER, "Heat Shock," states that DCPD is updating a cooling system thermal discharge impacts assessment using data gathered from 2008 through 2013 from the ongoing RWMP. Provide an anticipated schedule for when this comprehensive analysis, being prepared for the CCRWQCB, will be available.
- AQ-7 Submit a copy of the following documents for docketing:
- a) Fish, Heidi. 2002. PG&E trip and Holister Ranch access. Electronic correspondence (email), H. Fish, National Marine Fisheries Service to S. Krenn, Pacific Gas and Electric Company. Documenting results of request aquatic surveys on Diablo Lands.
 - b) Running SK. 1986. Diablo Creek aquatic survey. Pacific Gas and Electric Company, Dept. of Engineer Research. Rept. No. 420-86.423. 14pp.
 - c) The updated cooling system thermal discharge impacts assessment being prepared for the CCRWQCB, when available.

Cumulative Impacts

- CI-1 Provide name, description, location, and status of any additional past, present, or reasonably foreseeable projects or actions that have been identified since the applicants' ER (Amendment 1) was prepared.
- CI-2 Section 4.0.2 of the amended ER states that PG&E has no plans for refurbishment or other license renewal-related construction activities. In support of the NRC staff's cumulative impacts analysis, provide a summary of any other planned operational or maintenance activities (or projects) anticipated to be undertaken during the license renewal term, including any anticipated dredging or fill activities. (As possible, identify expected timeframe, location(s) affected, acres disturbed, activity/project duration, and permits/approvals which may be required.)

Meteorology and Air Quality

- AIR-1 Provide copies of DCPD's air permit(s) issued by the San Luis Obispo County Air Pollution Control District and air permit renewal notices. Describe the compliance history associated with DCPD's air permit and air permit renewal process and status. Has DCPD received any Notice of Violations (NOVs) from the San Luis Obispo County Air Pollution Control District regarding conditions established in the air permit(s)?

- AIR-2 Provide copies of Annual Emission Reports submitted to the San Luis Obispo County Air Pollution Control District for the most recent 5 years.
- AIR-3 Summarize stationary and mobile sources of non-radiological air emissions at DCPD. Identify the equipment and quantity.
- AIR-4 Provide the associated annual air emissions (air pollutant and quantity) for the most recent 5 years of operation for air permitted emission sources at DCPD. Include criteria pollutants (ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide, lead), volatile organic compounds, and hazardous air pollutants.
- AIR-5 Provide a site-wide emission (quantity) inventory data (annual) for greenhouse gases (GHG) for the most recent 5 years. Emissions should include stationary combustion sources, mobile sources (commuters, visitors, delivery vehicle, etc.) and other sources (refrigerant leakage, emissions from switchyard). In the response:
- a) identify and discuss the GHG emission sources;
 - b) provide information used to support the GHG emission values (e.g., operating hours per year, fuel consumption and rates, and energy rating as applicable for each source); and
 - c) discuss if PG&E has a GHG Emissions Reduction Program implemented specifically at DCPD. If so, identify actions that are implemented to reduce GHG emissions resulting from DCPD operation (lower-emission fleet vehicle, reduction in energy use in facilities).
- AIR-6 Identify any expected upgrade/replacement activities for equipment/operation that could increase or decrease air emissions over the license renewal period.
- AIR-7 Provide seasonal and annual summary wind statistics in the form of wind direction and speed frequency distribution tables and wind roses from data recorded at DCPD's meteorological facility. Discuss predominant wind direction and speed by season and annual average. The meteorological data should include the most recent 5 years for which the data are available.
- AIR-8 In support of the NRC staff's greenhouse gas, climate change, and cumulative impacts analysis, provide the following long-term meteorological information from the data recorded at DCPD's meteorological facility and address if an ambient temperature and precipitation trend (i.e., increase/decrease, warming, etc.) has been observed at DCPD. The meteorological data should include all years for which the data are available:
- a) mean monthly and annual temperatures; and
 - b) mean monthly precipitation and annual precipitation.

Noise

- NOI-1 Provide information about any noise complaints for the most recent 5 years resulting from DCPD operation.
- NOI-2 Describe the DCPD off-site noise environment and primary noise sources in the vicinity of DCPD.
- NOI-3 Identify and describe primary noise sources resulting from plant operation. Include in the response the distance from DCPD to the nearest off-site permanent resident and distance of the turbine building to the site boundary.

- NOI-4 Discuss ambient noise surveys that PG&E has conducted in and/or around the site. Include noise levels as part of the response.
- NOI-5 Submit a copy of the relevant sections from the following document for docketing:
- a) Marine Research Specialist, 2004, Diablo Canyon Independent Spent Fuel Storage Installation: Environmental Impact Report. Prepared for San Luis Obispo County Department of Planning and Building.

Socioeconomics

- SOC-1 Provide updated permanent workforce data, preferably residential distribution of permanent workforce by county, in table format.
- SOC-2 In addition to property tax payment information presented in Section 2.7 of the ER, describe any other major annual support payments (e.g., emergency preparedness fees and payments or fees because of the independent spent fuel storage installation), one-time payments, and other forms of non-tax compensation (if any) provided to local organizations, communities, and jurisdictions (e.g., county, municipality, townships, villages, incorporated places, and school districts) on behalf of DCPD.
- SOC-3 Provide information about any anticipated changes in State and local tax laws, rates, and assessed property value or any other recent or anticipated tax payment adjustments that could result in notable future increases or decreases in property taxes or other payments.

Non-Rad Waste Management

- WM-NR-1 Discuss the chemical composition and generation volume of the waste streams discussed in Section 3.1.5 of the ER.
- WM-NR-2 Provide a list of waste disposal companies and disposal sites for the waste streams discussed in Section 3.1.5 of the ER to include mixed waste streams.
- WM-NR-3 Discuss the hazardous materials training program that workers complete at DCPD.
- WM-NR-4 Discuss the processes used for managing hazardous waste, spill contingencies, waste minimization procedures, and treatment, storage, & disposal of hazardous and mixed wastes.
- WM-NR-5 Discuss current DCPD waste minimization programs and their effectiveness to include a discussion of waste volume trends.
- WM-NR-6 Clarify whether DCPD is a large or small quantity hazardous waste generator under the Resource Conservation and Recovery Act (42 USC § 6901 et seq.) (RCRA) and/or Title 12, California Code of Regulations.
- WM-NR-7 Discuss State or Federal RCRA audits for the last 5 years.
- WM-NR-8 Submit a copy of the following document for docketing:
- a) DCPD Aggregate HazWaste SB14 Volume Trends (1994-2014)

Human Health, Non-Radioactive (HH-NR)

- HH-NR-1 Discuss plant procedures that workers use to address safety standards, minimization of risks through the use of hazard communication, engineering controls, design controls, administrative controls, personal protection equipment, and safe work practices.

HH-NR-2 Discuss the processes used by the plant to control electrical shock hazards.

Historic and Cultural Resources

Sensitive cultural resources information, such as archaeological site location information, should be withheld from public disclosure, and guidance described in Section 304 of the National Historic Preservation Act should be followed.

- HC-1 Provide an updated map detailing the level of ground disturbance on PG&E property at DCP, including documentation on how the level of disturbance was determined.
- HC-2 What percentage of land on PG&E property at DCP has been formally surveyed?
- HC-3 What percentage of land on PG&E property at DCP is undisturbed?
- HC-4 Provide updated map(s) showing surveyed areas and archaeological sites on PG&E property at DCP and in-scope transmission lines.
- HC-5 Provide a copy of the summary and results pages from the following studies, "Final Report Results of a Cultural Resource Evaluation for the North Property Access Road Diablo Canyon Power Plant" and the "Cultural Resources Survey of Portions of Diablo Canyon Nuclear Power Plant South Property San Luis Obispo County, California."
- HC-6 Provide a copy of the summary and results pages of the most recent Cal Poly Field School Technical Report for the excavation at CA-SLO-5.
- HC-7 Provide a summary of meeting minutes pertaining to cultural resources issues for the last 4 years of the DCP Land Stewardship Team meetings, as discussed in Section 2.11.3 of the ER.
- HC-8 Provide a summary description of any administrative controls and environmental procedures in place for land-disturbing activities on PG&E property at DCP (e.g., trenching, clearing, and digging). Describe how inadvertent cultural resource discoveries are treated.
- HC-9 Provide summary information on land management activities on less-developed areas of PG&E property at DCP, especially near known archaeological and historically sensitive sites and unsurveyed areas.
- HC-10 Provide a copy of the program developed to monitor North Ranch sites as discussed in Section 2.11.4 of the ER. Also include any information regarding the monitoring of South Ranch sites. Provide copies of the summary and results pages of any technical reports generated from this monitoring (Pages 2.11-6 and 7 of the ER).
- HC-11 Provide the current status of the updated *National Register* nomination package for the *Pecho District* (Section 2.11.4 of the ER page 2.11-7). Continue to notify the NRC regarding any updates or changes in the status of the *National Register* nomination package during the license renewal environmental review and whether additional cultural resources are to be added to the proposed archaeological district.
- HC-12 Provide documentation of construction projects that have occurred on PG&E property at DCP since the last NRC license renewal site visit and tour in 2010. How were potential impacts to historic and cultural resources considered? Documentation demonstrating compliance with existing administrative controls and environmental procedures would be useful. What materials are used by

- PG&E staff to determine whether the California State Historic Preservation Office (SHPO) should be notified or consulted?
- HC-13 Provide summary information on cultural resource management and protection training required for PG&E staff at DCPD.
- HC-14 Provide copies of all letters and communications between PG&E staff and the California SHPO regarding the eligibility of cultural resources at DCPD for listing in the National Register of Historic Places since 2010, including DCPD and in-scope transmission lines.
- HC-15 Provide updated information on procedures for consulting/interacting with Federal and California State recognized American Indian Tribes that have ancestral or historical ties to the DCPD area and surrounding lands.
- HC-16 Provide copies of consultation letters and other correspondence between PG&E staff and the California SHPO and Federal and State recognized American Indian Tribes that have ancestral or historical ties to the DCPD area and surrounding lands.
- HC-17 Provide the status and updated draft document of the SHPO requested Programmatic Agreement and DCPD Cultural Resources Management Plan intended to replace the current Archaeological Resources Management Plan as discussed in Section 9.1.3 of the ER.
- HC-18 Provide a status on PG&E's response to the new Assembly Bill 52, formally establishing a new requirement under the California Environmental Quality Act (CEQA) to require Tribal Cultural Resources to be considered as potentially significant cultural resources under the CEQA environmental review process.
- HC-19 Provide a status of the Traditional Cultural Properties Surveys that have occurred on PG&E property at DCPD.

Surface Water Resources

- SWR-1 Summarize reported water withdrawals via the intake structure over the last 5 years (2010-2014 and 2015 year-to-date) and associated return discharges (via National Pollution Discharge Elimination System (NPDES) Outfall 001) and provide copies of the annual environmental reports filed with the California Energy Commission (CEC) reflecting the requested information. When available, also provide the 2015 annual ER for the docket.
- SWR-2 Provide a copy of the most recent application or Notice of Intent submitted to the State for coverage under the State General Industrial Storm Water Discharge permit.
- SWR-3 As related to the submittal under SWR-2, provide a copy of DCPD's current Stormwater Pollution Prevention Plan for docketing.
- SWR-4 Please provide a map of NPDES permitted outfall locations (inclusive of process wastewater and stormwater outfalls).
- SWR-5 Sections 4.2 through 4.2.6 of the amended ER state that efforts to renew DCPD's NPDES permit are ongoing and closely related to implementation of the State of California's Once-Through Cooling Water Policy (OTC). Describe the current status of the NPDES permit renewal for DCPD, including status and recent actions and associated milestones for resolving outstanding NPDES permit renewal and associated OTC Policy issues. In addition, provide copies of all letters and communications to and from the State of California (e.g., CCRWQCB

and SWRCB) specific to the NPDES permit process since 2010. Indicate if PG&E anticipates or is aware of the need to conduct any additional studies with respect to the OTC Policy.

- SWR-6 Section 9.1.5 of the amended ER addresses the need for an applicant for a Federal license or permit that could result in a discharge to navigable waters of the U.S. to provide the licensing agency with a state water quality certification in accordance with Section 401 of the Federal Clean Water Act. Section 401(a)(1) of the Act specifies that the applicant for the Federal license or permit is responsible for providing the Federal licensing or permitting agency the certification or a waiver from the state in which the discharge originates. As stated in NRC's "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" (NUREG-1437, Revision 1), some but not all states integrate their 401 certification process with NPDES permit issuance. As related to SWR-5 above, please clarify whether the State of California will require a separate Section 401 certification for license renewal of DCP, independent of NPDES permit renewal, and indicate PG&E's plans and associated timeframe for providing the NRC with required CWA Section 401 documentation from the State.
- SWR-7 Provide copies of any NOVs, nonconformance notifications, or related infractions received from regulatory agencies associated with NPDES permitted discharges, sanitary sewage systems, groundwater or soil contamination, including spills, leaks, and other inadvertent releases of fuel solvents, chemicals, or radionuclides received to date (covering past 5 years inclusive of 2015). Include correspondence of self-reported violations to responsible agencies.
- SWR-8 Provide copies of NPDES annual reports on discharge monitoring for DCP covering the last 5 years (2010-2014). Include associated transmittal correspondence with the Water Quality Control Board(s). When available, provide the 2015 report for docketing.
- SWR-9 As described in Section 2.3 of the ER and cited elsewhere, please clarify the use of the Raw Water Reservoirs and relation to other plant systems, including the Ultra Pure Water Facility observed during the environmental site audit. Clarify how the reservoirs are filled/maintained. Include information on size, capacity, and nature of construction.
- SWR-10 The NRC staff understands that PG&E has initiated plans to provide San Luis Obispo city and county with water produced by DCP's desalinization facility (discussed in Section 2.9.1 of the ER). Provide a status summary of this effort including that status of any delivery agreement(s), project timeframes, and the water volume and rate to be supplied for public use, etc.
- SWR-11 In Section 3.1.2.1 of the ER, the discussion of the seawater intake system provides a range of flow rates relative to the circulating water pumps. Please provide the rated capacities of each of the pumps for Units 1 and 2. As also discussed in the cited section, please verify the rated capacity of each of DCP's auxiliary saltwater system pumps.
- SWR-12 DCP's NPDES permit (included as attachment B to the ER) lists a Sanitary Wastewater Treatment System. Provide an updated summary discussion of this package treatment plant and include capacity and current treatment demand, the pathways for treated effluent disposal, and the method of sludge disposal.

- SWR-13 In support of the NRC staff's surface water, climate change, and cumulative impacts analyses, provide a summary of available average monthly intake water and return discharge temperature (via NPDES Outfall 001) for the period of record at DCPD and address if an ambient temperature trend has been observed. As part of the response address whether there is any apparent trend in the frequency or annual hours of operation in accordance with Technical Specifications Limiting Conditions for Operation 3.7.9, Condition A.

Groundwater Resources

- GWR-1 Provide the records supporting the statements in the ER concerning the volume of groundwater consumed.
- GWR-2 Submit a copy of the following document for docketing:
- b) "Diablo Canyon Power Plant, Water Resources Evaluation Phase II Report: Well Rehabilitation, Monitoring Well Installation, and Aquifer Testing," by ENTRIX, August 22, 2008.

Terrestrial Resources

- TER-1 Approximately how many acres of land does the "Diablo Canyon Lands" (the DPCC site, North Ranch, and South Ranch, collectively) encompass? Within the DPCC site, how many acres are non-disturbed, natural areas?
- TER-2 Section 2.4.3 of the ER describes important state natural communities that are "considered unique or sensitive within California." Clarify whether these natural communities are considered unique or sensitive by the State, another organization, the scientific community, etc.
- TER-3 Do the Diablo Canyon Lands contain habitats designated as "environmentally sensitive habitat areas" as defined by the California Coastal Act of 1976, as amended? If so, describe the location, species composition, and any other important characteristics of these areas.
- TER-4 In the ER, Amendment 1, Table 2.4-1 states that "multiple surveys from 2005 through 2011 failed to identify a nesting colony" of tricolored blackbirds (*Agelaius tricolor*). To what surveys is the ER referring?
- TER-5 In the ER, Amendment 1, Table 2.4-1 states that the burrowing owl (*Athene cunicularia*) is believed to be "nearly extirpated as a breeding species in coastal San Luis Obispo County." What is the source of this information?
- TER-6 In the ER, Amendment 1, the "Record of Occurrence" column in Table 2.4-1 states that there is a record of occurrence for the silvery legless lizard (*Anniella pulchra pulchra*), but the "Occurrence Potential" column states that multiple survey results for the species have been negative. Clarify this seemingly contradictory information.
- TER-7 In the ER, Amendment 1, the "Record of Occurrence" column in Table 2.4-1 states that there is a record of occurrence for the southern rubber boa (*Charina umbratica*), but the "Occurrence Potential" column states that survey results for the species have been negative. Clarify this seemingly contradictory information.
- TER-8 Describe how PG&E assesses and mitigates any environmental effects of new ground-disturbing activities or other new site activities that could affect terrestrial habitats or species.
- TER-9 Briefly describe how non-industrial, previously disturbed, or landscaped areas of the site are maintained.

Special Status Species and Habitats

- SSH-1 In an Information for Planning and Conservation (IPaC) Report dated May 12, 2015 (ADAMS Accession No. ML15132A423), the U.S. Fish and Wildlife identified a number of Federally listed species that are not addressed in the ER. Provide any available information on potential habitat, occurrence, or sightings of the following species:
- a) Blunt-nosed leopard lizard (*Gambelia sila*)
 - b) California clapper rail (*Rallus longirostris obsoletus*)
 - c) California jewelflower (*Caulanthus californicus*)
 - d) Giant kangaroo rat (*Dipodomys ingens*)
 - e) Kerm primrose sphinx moth (*Euproserpinus euterpe*)
 - f) Marbled murrelet (*Brachyramphus marmoratus*)
 - g) Pismo clarkia (*Clarkia speciosa* spp. *immaculate*)
 - h) Salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*)
 - i) Spreading navarretia (*Navarretia fossalis*)
 - j) Vernal pool fairy shrimp (*Branchinecta lynchi*)
- SSH-2 In the ER, Amendment 1, Table 2.4-1 states that multiple survey results have been negative for the California least tern (*Sternula antillarum browni*). However, the NRC staff was unable to find information indicating that past ecological studies actively surveyed for this species. Explain what surveys have been done for this species.
- SSH-3 In the ER, Amendment 1, Table 2.4-1 states that long-term monitoring has failed to identify western snowy plover (*Charadrius alexandrinus nivosus*) at Coon Creek beach. To what long-term monitoring is the ER referring?
- SSH-4 In the ER, Amendment 1, Table 2.4-1 states that long-term monitoring has failed to detect least Bell's vireo (*Vireo bellii pusillus*). To what long-term monitoring is the Environmental Report referring?
- SSH-5 In the ER, Amendment 1, Table 2.4-1 states that there is no record of the marsh sandwort (*Arenaria paludicola*) on the Diablo Canyon Lands. However, the NRC staff was unable to find information indicating that past ecological studies actively surveyed for this species. Explain what surveys have been done for this species.
- SSH-6 Section 2.5 of the ER, "Threatened and Endangered Species: Aquatic Listed Species," states that blue whale (*Balaenoptera musculus*), sperm whale (*Physeter macrocephalus*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), and sei whale (*Balaenoptera borealis*) may be found near DCPD for limited amounts of time. Provide citations for any relevant monitoring studies that provide a basis for this statement. In addition, killer whales (*Orcinus orca*) and North Pacific right whales (*Eubalaena japonica*) could occur near DCPD. Provide any available information on the occurrence or sightings of whales near DCPD.
- SSH-7 Section 2.5 of the ER, "Threatened and Endangered Species: Aquatic Listed Species," states that white abalone (*Haliotis sorenseni*) may be found near DCPD for limited amounts of time. Provide citations for any relevant monitoring

studies that provide a basis for this statement. In addition, provide any available information on the occurrence or sightings of this species near DCPD.

- SSH-8 Section 2.5 of the ER, "Threatened and Endangered Species, Tidewater Goby," states that no records of adult tidewater goby (*Eucyclogobius newberryi*) were found for drainages on the DCPD site. Describe the types of records PG&E searched in order to provide a basis for this statement. In addition, clarify whether any juveniles were observed on site.
- SSH-9 Section 2.5 of the ER, "Threatened and Endangered Species," describes the monitoring results for sea turtles, marine mammals, and black abalone. Provide a summary of the monitoring methods that are specific to sea turtles, marine mammals, and black abalone.
- SSH-10 Section 4.10 of the ER, "Threatened and Endangered Species," states that PG&E has not identified any impacts to the southern sea otter (*Enhydra lutris*) or the Guadalupe fur seal (*Arctocephalus townsendi*) from DCPD operations based on extensive monitoring efforts. Provide a basis for this statement, including a summary of monitoring methods and activities and the references of any reports or studies that describe these monitoring efforts.
- SSH-11 Section 4.10 of the ER, "Threatened and Endangered Species," states that PG&E is not aware of sea turtles aggregating near the DCPD discharge area, based on stranding and siting data. Provide a summary of the stranding and siting data that PG&E reviewed to support this statement.
- SSH-12 Section 4.10 of the ER, "Threatened and Endangered Species," describes the likely presence of steelhead trout (*Oncorhynchus mykiss*), tidewater goby, green sturgeon (*Acipenser medirostris*), and coho salmon (*Oncorhynchus kisutch*) in the vicinity of the intake cover and potential impacts from impingement and entrainment. Provide a description of any known occurrences of these species near the discharge in Diablo Cove and potential direct and indirect effects to these species as a result of the thermal effluent.
- SSH-13 Submit a copy of the following documents for docketing:
- a) SLO. 2003. Coon Creek Culvert Replacement and Fish Passage Enhancement Project, Biological Assessment. City of San Luis Obispo, California. 20 pp.
 - b) Behrens, D.W. 1983. Observations of the gray whale migration in the vicinity of Diablo Canyon: 1981 - 1982 migration. Chapter XIII in Behrens, D.W. (ed.), Environmental investigations at Diablo Canyon, 1982. PG&E, Dept. Engr. Res. June, 1983.
 - c) Behrens, D.W., D.J. Sommerville, and D.C. Sommerville. 1984. Observations of the gray whale migration in the vicinity of Diablo Canyon: 1982 - 1983 migration. Chapter VI in Behrens, D.W. and C.O. White (eds.), Environmental investigations at Diablo Canyon, 1983. PG&E, Dept. Engr. Res. August, 1984.
 - d) Behrens, D.W., P.A. Dunn, and D.C. Sommerville. 1985. Observations of the gray whale migration in the vicinity of Diablo Canyon: 1983 - 1984 migration. Chapter IX in Behrens, D.W. and C.O. White (eds.), Environmental investigations at Diablo Canyon, 1984. Volume I - Marine ecological studies. PG&E, Dept. Engr. Res. December, 1985.
 - e) Behrens, D.W. and K.E. Shaffer. 1986. Observations of the gray whale migration in the vicinity of Diablo Canyon: 1984 - 1985 migration. Chapter VIII

in Behrens, D.W. and C.O. White (eds.), Environmental investigations at Diablo Canyon, 1985. Volume I - Marine ecological studies. PG&E, Dept. Engr. Res. December 1986.

- f) Behrens, D.W. 1987. Observations of the gray whale migration in the vicinity of Diablo Canyon: 1985 - 1986 migration. Chapter VI in Behrens, D.W. and White, C.O. (eds.), Environmental investigations at Diablo Canyon, 1986.