

CALIFORNIA COASTAL COMMISSION

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Date Filed:	November 3, 2006
49 th Day:	December 22, 2006
Hearing Opened:	May 11, 2006
Substantial Issue Found:	May 11, 2006
Staff:	Tom Luster-SF
Staff Report:	November 30, 2006
Hearing Date:	December 14, 2006
Approved:	December 14, 2006
Revised Findings:	February 14, 2008
Hearing Date:	March 5, 2008

PROPOSED REVISED FINDINGS – DE NOVO HEARING FOR APPEAL AND COASTAL DEVELOPMENT PERMIT APPLICATION

COMMISSION APPEAL NO.: A-3-SLO-06-017

APPLICATION FILE NO: E-06-011

LOCAL GOVERNMENT: County of San Luis Obispo

LOCAL DECISION: Approved with Conditions, March 7, 2006

APPLICANT: Pacific Gas and Electric Company

SUBSTANTIAL ISSUE: On May 11, 2006, the Commission found that the appeals of the local government action on this project raised substantial issue.

PROJECT DESCRIPTION: Remove Diablo Canyon Power Plant's existing steam generators and replace with new generators.

PROJECT LOCATION: Diablo Canyon Nuclear Power Plant, P.O. Box 56, Avila Beach 93424 (approximately 6 miles north of Avila Beach), County of San Luis Obispo.

APPELLANTS: Mothers For Peace / Sierra Club – Santa Lucia Chapter / Commissioners Reilly and Shallenberger

COMMISSIONERS ON PREVAILING SIDE: Caldwell, Kruer, Achadjian, Burke, Clark, Neely, Padilla, Potter, Reilly, Secord, Shallenberger, Wan

- EXHIBIT 1:** Location Map
- EXHIBIT 2:** Site Map
- EXHIBIT 3:** Map of Staff Proposed Conservation Area
- EXHIBIT 4:** Map of PG&E's Proposed Conservation Area
- EXHIBIT 4A:** Revised Map of PG&E Proposed Conservation Area
- EXHIBIT 5:** December 14, 2006 Hearing Transcript
- EXHIBIT 6:** January 29, 2008 letter from PG&E to Commission regarding Conservation Offer
- SUBSTANTIVE FILE DOCUMENTS:** See Appendix A
- STAFF RECOMMENDATION:** Adoption of Revised Findings

EXECUTIVE SUMMARY

PROJECT DESCRIPTION

The proposed development is the removal of existing steam generators at the Diablo Canyon Power Plant (DCPP) and the installation of new generators of approximately the same size and generating output. The project is intended to allow the two generating units at DCPP to operate until the end of their current federal license periods – Unit 1 is licensed to operate until 2021 and Unit 2 is licensed until 2025. Without this Steam Generator Replacement Project (SGRP), the power plant would have to shut down by about 2014.

Federal law pre-empts the state from imposing requirements related to nuclear safety or radiation hazards. This report, therefore, evaluates only those issues necessary to determine conformity to the policies of the San Luis Obispo County certified Local Coastal Program (LCP) and with the policies of Chapter 3 of the Coastal Act and does not address the issues pre-empted by federal law.

PRIOR COMMISSION ACTION

Part of the project is located within the County of San Luis Obispo certified Local Coastal Program jurisdiction and requires a CDP from the County. On March 7, 2006, the County approved a CDP for the proposed project. Several parties appealed, and on May 11, 2006, the Commission found that the appeals raised substantial issue with respect to the grounds on which they were filed, and opened and continued a public hearing for the de novo portion of the appeal.

KEY ISSUES

- **Public Access:** The proposed project would not change the existing limitations on public access in the immediate vicinity of the project site, though it would affect access to nearby areas during its approximately three-year construction period. PG&E has provided as part of the proposed project several access enhancements, including:
 - A contribution of \$700,000 for improvements to the Point San Luis Lighthouse Road as described in County Minor Use Permit D-02-0067.
 - A contribution of \$300,000 to remove barriers to coastal access or the equivalent amount in construction work. The primary purpose of these funds is to either move the DCPD security gate or move the entrance to the Pecho Coast Trail and access road so that trail users do not have to pass through the security gate to access the trail.
 - A contribution of \$150,000 for purchase of a handicapped-accessible multipassenger vehicle to be used for access to the Point San Luis Lighthouse.
 - A contribution of \$300,000 for design, permitting, and/or construction costs of a pedestrian and bicycle pathway between Avila Beach and Port San Luis.
 - A contribution of \$380,000 for traffic control devices in Avila Beach.
 - An Offer To Dedicate an access easement to the Port San Luis Port District over the approximately 1.8 mile Lighthouse Road between the southern entrance to PG&E's Diablo Canyon lands and the Point San Luis Lighthouse.
 - A conservation offer¹ covering approximately 1,200 acres around Point San Luis (as shown on the map attached to PG&E's December 14, 2006 letter to the Commission, Exhibit 4a of these Findings).

To ensure PG&E's proposed access elements conform to Coastal Act and LCP provisions, **Special Condition 3** includes requirements to meet the minimum standards for such access provisions, such as filing requirements, timing, dimensions, and necessary infrastructure improvements.

- **Marine Mammal Protection:** PG&E proposes to deliver the steam generators by barge, which could result in harm or harassment of marine mammals. **Special Condition 4** requires PG&E to submit prior to steam generator delivery a marine mammal protection plan for Executive Director review and approval.
- **Environmentally Sensitive Habitat Protection:** The additional years of DCPD operation provided by the SGRP will result in further impacts to Diablo Creek, which flows through the DCPD site and which provides riparian habitat. PG&E currently withdraws water from the creek for domestic use within the power plant complex. The water it currently withdraws

¹ On the basis of its written submittals to the Commission, PG&E maintains that it offered to conserve the 1,200 acre area by means of either a deed restriction or an easement. On the basis of the transcript of the December 14, 2006, hearing, Commission staff believes that the Commission made it clear that it understood PG&E to be offering a conservation easement and took action with that understanding. Subsequent descriptions of PG&E's offer will refer to it simply as a conservation offer.

can be replaced by use of the existing desalination facility at DCPD; therefore, **Special Condition 5** requires PG&E to stop the withdrawals from Diablo Creek before the start of commercial operation of the new generators.

- **Water Quality Protection and Spill Prevention and Response:** The SGRP will be subject to County and State requirements and permits related to protection of water quality from runoff, sedimentation, and erosion. **Special Condition 1** requires PG&E to submit copies of the County's Drainage Permit and the Regional Water Quality Control Board's stormwater permit prior to construction. Additionally, the steam generator delivery via barge involves a risk of spills to coastal waters; therefore, **Special Condition 6** requires PG&E to submit a Spill Prevention and Response Plan that meets state requirements as established through the Office of Spill Prevention and Response.
- **Protection of Marine Biological Resources and Water Quality:** The additional years of DCPD operation provided by the SGRP will result in additional substantial adverse impacts to the local and regional nearshore coastal waters. As described in the Public Access section above, PG&E has offered to conserve 1,200 acres of the nearby lands it owns or controls. This offer will also compensate for these nearshore impacts through protection of the significant habitat values on these lands. The conservation offer will also allow continuation and enhancement of existing development and uses, including open space, public access, and sustainable coastal agriculture.

STAFF RECOMMENDATION

Staff recommends that the Commission adopt the following revised findings in support of the Commission's action on December 14, 2006. At the public hearing on December 14, 2006, the applicant argued that their proposed project, including project revisions that the applicant presented to the Commission at the hearing, was consistent with Coastal Act and Local Coastal Program (LCP) requirements. At the hearing, the Commission deleted Special Condition No. 7 and confirmed that the applicant's project proposal included a 1,200 acre conservation area. One remaining area of dispute between the applicant and Commission staff is whether the conservation area as approved by the Commission is to be in the form of an easement or a deed restriction. The following revised findings reflect the Commission's action and staff recommends adoption of these findings. Deletions from the original staff recommendation are indicated in ~~striethrough~~ and additions are indicated in underline. See Pages 6 and 7 for the motion and resolution necessary to carry out the staff recommendation.

TABLE OF CONTENTS

1.0	RECOMMENDED MOTIONS AND RESOLUTIONS.....	6
1.1	MOTION & RESOLUTION FOR COASTAL DEVELOPMENT PERMIT NO. A-3-SLO-06-017 ..	6
1.2	MOTION & RESOLUTION FOR COASTAL DEVELOPMENT PERMIT E-06-011.....	6
2.0	STANDARD CONDITIONS.....	7
3.0	SPECIAL CONDITIONS	8
4.0	RECOMMENDED FINDINGS AND DECLARATIONS	13
4.1	PROJECT PURPOSE AND DESCRIPTION	13
4.1.2	<i>Proposed Project Elements Reviewed For Coastal Act and LCP Conformity</i>	<i>14</i>
4.1.3	<i>Issues Related to Proposed Project Not Reviewed for Coastal Act or LCP Conformity</i>	<i>16</i>
4.2	COASTAL COMMISSION JURISDICTION	17
4.3	ALTERNATIVES TO THE PROPOSED PROJECT	23
4.4	CONFORMITY TO APPLICABLE POLICIES OF THE COASTAL ACT AND THE CERTIFIED LOCAL COASTAL PROGRAM.....	24
4.4.1	<i>Public Access and Recreation.....</i>	<i>24</i>
4.4.2	<i>Marine Biological Resources and Water Quality.....</i>	<i>33</i>
4.4.3	<i>Environmentally Sensitive Habitat Areas</i>	<i>49</i>
4.4.4	<i>Water Quality Protection and Spill Prevention & Response.....</i>	<i>57</i>
4.4.5	<i>Geologic Hazards</i>	<i>60</i>
4.4.6	<i>Visual Resources.....</i>	<i>63</i>
4.4.7	<i>Coastal-dependent Industrial Development</i>	<i>65</i>
5.0	CALIFORNIA ENVIRONMENTAL QUALITY ACT	71
	APPENDIX A: SUBSTANTIVE FILE DOCUMENTS	72

EXHIBITS

EXHIBIT 1: Location Map

EXHIBIT 2: Site Layout

EXHIBIT 3: PG&E's Diablo Canyon Lands

EXHIBIT 4: PG&E's Proposed Point San Luis Deed Restriction or Easement

EXHIBIT 4a: PG&E's Revised Proposed Point San Luis Deed Restriction or Easement

EXHIBIT 5: Hearing Transcript of December 16, 2006

EXHIBIT 6: January 29, 2008 letter from PG&E regarding Conservation Offer

Click on the link
at left to go
to the exhibits.

1.0 RECOMMENDED MOTIONS AND RESOLUTIONS

1.1 MOTION & RESOLUTION FOR COASTAL DEVELOPMENT PERMIT NO. A-3-SLO-06-017

Staff recommends the Commission, after a public hearing, adopt the Revised Findings for Coastal Development Permit No. A-3-SLO-06-017.

Motion

I move that the Commission adopt the revised findings in support of the Commission's action on December 14, 2006 concerning Coastal Development Permit No. A-3-SLO-06-017.

Staff recommends a **YES** vote. Passage of this motion will result in the adoption of revised findings as set forth in this staff report. The motion requires a majority vote of the members from the prevailing side present at the December 14, 2006 hearing, with at least three prevailing members voting. Only those Commissioners on the prevailing side of the Commission's action are eligible to vote on the revised findings.

Resolution

The Commission hereby adopts the findings set forth below for approval of Coastal Development Permit No. A-03-SLO-06-017 on the ground that the findings support the Commission's decision made on December 14, 2006 and accurately reflects the reasons for it.

Commissioners eligible to vote on Revised Findings for Coastal Development Permit No. A-03-SLO-06-017: Caldwell, Kruer, Achadjian, Burke, Clark, Neely, Padilla, Potter, Reilly, Secord, Shallenberger, and Wan.

1.2 MOTION & RESOLUTION FOR COASTAL DEVELOPMENT PERMIT E-06-011

Staff recommends that the Commission, after a public hearing, adopt the Revised Findings for Coastal Development Permit No. E-06-011.

Motion:

I move that the Commission adopt the revised findings in support of the Commission's action on December 14, 2006 concerning Coastal Development Permit No. E-06-011.

Staff recommends a **YES** vote. Passage of this motion will result in the adoption of revised findings as set forth in this staff report. The motion requires a majority vote of the members from the prevailing side present at the December 14, 2006 hearing, with at least three prevailing

members voting. Only those Commissioners on the prevailing side of the Commission's action are eligible to vote on the revised findings.

Resolution:

The Commission hereby adopts the findings set forth below for approval of Coastal Development Permit No. A-03-SLO-06-017 on the ground that the findings support the Commission's decision made on December 14, 2006 and accurately reflects the reasons for it.

Commissioners eligible to vote on Revised Findings for Coastal Development Permit No. A-03-SLO-06-017: Caldwell, Kruer, Achadjian, Burke, Clark, Neely, Padilla, Potter, Reilly, Secord, Shallenberger, and Wan.

2.0 STANDARD CONDITIONS

- 1. Notice of Receipt and Acknowledgment:** This permit is not valid until a copy of the permit is signed by the Permittee or authorized agent, acknowledging receipt of the permit and the acceptance of the terms and conditions, is returned to the Commission office.
- 2. Expiration:** Construction activities for the proposed project must be initiated within two years of issuance of this permit. This permit will expire two years from the date on which the Commission approved the proposed project if development has not begun. Construction of the development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made at least six months prior to the expiration date.
- 3. Interpretation:** Any questions of intent or interpretation of any condition will be resolved by the Executive Director of the Commission (hereinafter, "Executive Director") or the Commission.
- 4. Assignment:** The permit may be assigned to any qualified person, provided the assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
- 5. Terms and Conditions Run with the Land:** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

3.0 SPECIAL CONDITIONS

1. **Submittal of Other Permits: *Prior to starting project construction***, PG&E shall provide to the Executive Director a copy of permits and approvals needed for the project from the following:
 - a. County of San Luis Obispo – construction permits
 - b. California Department of Forestry/County Fire Department
 - c. California Regional Water Quality Control Board – Construction Stormwater Permit
 - d. California Department of Fish and Game
 - e. San Luis Obispo County Air Pollution Control District
 - f. County of San Luis Obispo Environmental Health Department

2. **Re-licensing, Decommissioning, or Other Changes to the Diablo Canyon Power Plant:**
This permit does not authorize development activities associated with potential re-licensing, decommissioning, or changes to the power plant not described in permit submittals. PG&E shall submit a new coastal development permit application or amendment to this permit if such activities are proposed.

3. **Public Access Enhancements:**
 - a. **Funding For Access Enhancements: *Prior to permit issuance***, PG&E shall provide documentation to the Executive Director showing that it has deposited \$1,830,000 into an escrow account or accounts approved by the Executive Director. PG&E has offered these funds to the County and to the Port San Luis Harbor District for the following access enhancements:
 - i. A contribution of \$700,000 for improvements to the Point San Luis Lighthouse Road as described in County Minor Use Permit D-02-0067.
 - ii. A contribution of \$300,000 to remove barriers to coastal access or the equivalent amount in construction work. The primary purpose of these funds is to either move the DCPD security gate or move the entrance to the Pecho Coast Trail and access road so that trail users do not have to pass through the security gate to access the trail.
 - iii. A contribution of \$150,000 ~~for purchase of a handicapped-accessible multipassenger vehicle to be used for access~~ to improve handicapped access to the Point San Luis Lighthouse.
 - iv. A contribution of \$300,000 for design, permitting, and/or construction costs of a pedestrian and bicycle pathway between Avila Beach and Port San Luis.
 - v. A contribution of \$380,000 for traffic control devices in Avila Beach.

 - b. **Lighthouse Road Access Easement:**
 - i. ***Within 12 months of permit issuance***, PG&E shall prepare for Executive Director review and approval a stewardship plan for the access easement over the approximately 1.8-mile Lighthouse Road offered as part of the Steam Generator Replacement Project as shown on Exhibit 4a. The Executive Director may extend this time period upon PG&E's request and showing of good cause. The plan shall be prepared in consultation with the Port San Luis Port District (Port District). The plan shall include the following:

- A. The access easement location and dimensions, along with a description showing that the easement would be consistent, at minimum, with the location and size requirements of the County LCP's access provisions;
 - B. Planned or necessary access improvements, including those listed in Special Condition 3.a.i-ii above, along with a description showing that these improvements are consistent with the County's LCP access provisions;
 - C. A description of allowed and prohibited methods of access. The primary purpose of the access easement is to allow public access to and along the Lighthouse Road to access the Point San Luis Lighthouse. The plan shall include a provision to ensure users of the accessway are not required to submit social security numbers or provide advanced notification;
 - D. A description of the funding needed to maintain the accessway and the method that accessway maintenance will be funded.
- ii. ***Within 12 months of permit issuance***, PG&E shall provide documentation to the Executive Director that it has recorded with the County conveyance of a perpetual easement deed to the Port District for this Lighthouse Road accessway and that the easement deed reflects all components of the stewardship plan approved by the Executive Director. The Executive Director may extend this time period upon PG&E's request and showing of good cause. The easement deed shall be of a form and content approved by the Executive Director, free of prior encumbrances, except for tax liens, that the Executive Director determines may affect the interest being conveyed, and shall provide the public the right to use the dedicated route for access to and along the Lighthouse Road. The easement shall run with the land in favor of the State of California binding successors and assigns of the applicant or landowner.
- c. **Point San Luis Conservation Easement:**
- i. ***Within 12 months of permit issuance***, PG&E shall prepare for Executive Director review and approval a stewardship plan for the perpetual easement over approximately ~~620~~1,200 acres around Point San Luis offered as part of the Steam Generator Replacement Project (and as shown in Exhibit 4a). The Executive Director may extend this time period upon PG&E's request and showing of good cause. The stewardship plan shall include the following:
 - A. The easement location and dimensions, along with a description showing that the easement would be consistent, at minimum, with the location and size requirements of the County LCP's easement and access provisions;
 - B. Planned or necessary improvements, along with a description showing that these improvements are consistent with the County's LCP easement and access provisions;
 - C. A description of permitted and prohibited methods of access and agricultural operations. The primary purpose of the easement is to prohibit development that would detract from the public access experience along the Pecho Coast Trail, the Lighthouse Road, and the Point San Luis Lighthouse; and,
 - D. A description of the funding needed to maintain the easement and the method that maintenance will be funded.

ii. **Within 12 months of permit issuance**, PG&E shall provide documentation to the Executive Director showing that it has recorded with the County an irrevocable Offer To Dedicate the above-referenced easement to a public agency or private association approved by the Executive Director. The Executive Director may extend this time period upon PG&E's request and showing of good cause. PG&E shall also provide documentation to the Executive Director showing that Offer To Dedicate includes all conditions of the stewardship plan approved by the Executive Director.

The irrevocable Offer To Dedicate shall be of a form and content approved by the Executive Director, free of prior encumbrances, except for tax liens, that the Executive Director determines may affect the interest being conveyed. The document shall provide that the offer of dedication shall not be used or construed to allow anyone, prior to acceptance of the offer, to interfere with any rights of public access acquired through use which may exist on the property. The Offer To Dedicate shall run with the land in favor of the State of California binding successors and assigns of the applicant or landowner. The Offer To Dedicate shall be irrevocable for a period of 21 years, such period running from the date of recording.

iii. **Within 12 months of permit issuance**, PG&E shall prepare for Executive Director review and approval a stewardship plan for the Conservation Property, which shall require implementation of sustainable agricultural practices, as defined under U.S. Code Title 7, Section 3101, including rotation of grazing areas and avoidance or reduction of pesticide use in accordance with the grazing management goals set forth in Technical Reference 1734-6 titled, *Interpreting Indicators of Rangeland Health*, prepared jointly by the U.S. Departments of Agriculture and Interior (2000), which shall apply to the extent agricultural operations are conducted on the Conservation Property. The stewardship plan shall provide an implementation schedule, which shall ensure that all properties covered are in compliance with the plan within three years of the date of this approval.

4. **Marine Mammal Protection Plan: Prior to steam generator delivery**, PG&E shall submit a marine mammal protection plan for review and approval by the Executive Director. The steam generator deliveries shall not occur before the Executive Director approves the plan. The plan shall describe measures that will be implemented to avoid "take" of marine mammals as defined in the Marine Mammal Protection Act. At minimum, the plan shall include the following:
- a. A description of measures and procedures that will be used to avoid interactions with marine mammals during vessel movements within 1000 feet of the Diablo Cove breakwater;
 - b. Use of at least two NMFS-approved monitors when vessels are underway within 1000 feet of the Diablo Cove breakwater. The monitors shall be provided with unobstructed views from the vessels to allow them to detect nearby marine mammals. The monitors shall have the authority to direct vessel operators to take actions necessary to maintain a distance of at least 1,000 feet from detected marine mammals unless such actions would compromise the vessel's safety;

- c. A description of reporting requirements of marine mammal sightings or any incidents that could be considered “take”; and,
 - d. A description of training that will be provided to project personnel on techniques to avoid harming or harassing marine mammals.
5. **Diablo Creek Habitat Protection and Enhancement:** *No later than the start of commercial operation of the replacement steam generators*, PG&E shall cease withdrawing water from Diablo Creek. Upon PG&E’s request, the Executive Director may, for good cause, extend the time during which PG&E may continue the water withdrawals.
6. **Spill Prevention and Response:** *Prior to steam generator delivery*, PG&E shall submit documentation to the Executive Director showing that the vessels used for the steam generator deliveries are subject to a spill prevention and response plan that meets applicable requirements for such plans established by the California Department of Fish and Game Office of Spill Prevention and Response. The plan shall:
- a. Describe the shoreline and marine resources at risk in the project area;
 - b. Identify specific equipment, training, and procedures that would be implemented during the steam generator deliveries to both prevent and respond to spills;
 - c. Identify primary spill responders in the area, nearby equipment available, and response times for those responders;
 - d. Include a vessel refueling plan to minimize the potential for fuel spills at sea; and,
 - e. Specify how PG&E will provide information about vessel locations and work schedules to the U.S. Coast Guard for inclusion in a Notice to Mariners so other vessels operating in the area will be able to avoid the project area during the deliveries.
7. ~~**Conservation Easement As Mitigation for Marine Biology and Water Quality Impacts:**~~ PG&E shall record an Offer To Dedicate for a conservation easement over approximately 9,130 acres as described below as mitigation for the Steam Generator Replacement Project’s adverse effects on marine biology and water quality.
- a. ~~**Location:**~~ The easement shall cover approximately 9,130 acres of the 12,791 acres of land and shoreline owned or controlled by PG&E or its subsidiaries within the coastal watersheds surrounding the Diablo Canyon Power Plant. Areas of these lands not within the easement are:
 - ~~Approximately 772 acres of land consisting of the high-security zone around DCP.~~
 - ~~Approximately 2,269 acres of land subject to a 99-year lease issued by PG&E to the Leucadia Corporation (known as the Sullivan Lease).~~
 - ~~Approximately 620 acres of land near Point San Luis that are the subject of a separate easement described in Special Condition 3 above.~~
 - b. ~~**Stewardship Plan:**~~ *Prior to steam generator delivery*, PG&E shall prepare for Executive Director review and approval a stewardship plan for the easement. The plan shall include the following:

- ~~i. A description of the allowable and prohibited uses of the easement. The primary purpose of the easement shall be to provide conservation benefits through protection over intertidal habitat and native terrestrial habitat. The easement shall also allow for continuation and enhancement of other existing types of land uses on these lands, including open space, public access, and sustainable coastal agriculture, where these uses can be implemented consistent with the easement's primary purpose. The easement shall also allow for restoration of native habitat and measures that may be needed to improve water quality. It shall also allow for maintenance of existing power transmission right of ways and access to PG&E facilities.~~
 - ~~ii. A description of existing conditions within the easement, including existing habitat types and existing and proposed development, including current agricultural practices and existing and proposed public accessways.~~
 - ~~iii. A description of how the easement will be managed to provide the allowable and existing uses described above. The management plan is to ensure the continuation and enhancement of these existing uses. It is also to describe how currently required and anticipated accessways will be completed. These include continued access and development necessary to support access along the Pecho Coast Trail, access being developed in the North Diablo lands pursuant to the ISFSI project, and anticipated access that may be provided by the Coastal Trail accessway over inland portions of the Diablo Canyon lands. The plan is also to describe how it will ensure continuation of sustainable coastal agricultural practices, including rotation of grazing areas, and avoidance or reduction of pesticide use.~~
 - ~~iv. A description of the funding needed to support stewardship of the easement. Based on the funding needs identified in the plan and upon approval of the plan by the Executive Director, PG&E shall fund an endowment to provide for perennial stewardship costs.~~
- ~~c. **Recordation of Offer To Dedicate: Prior to steam generator delivery**, PG&E shall provide documentation to the Executive Director showing that it has recorded with the County an irrevocable Offer To Dedicate the above referenced easement to a public agency or private association approved by the Executive Director. PG&E shall also provide documentation to the Executive Director showing that Offer To Dedicate includes all conditions of the stewardship plan approved by the Executive Director.~~

~~The irrevocable Offer To Dedicate shall be of a form and content approved by the Executive Director, free of prior encumbrances, except for tax liens, that the Executive Director determines may affect the interest being conveyed. The document shall provide that the offer of dedication shall not be used or construed to allow anyone, prior to acceptance of the offer, to interfere with any rights of public access acquired through use which may exist on the property. The Offer To Dedicate shall run with the land in favor of the State of California binding successors and assigns of the applicant or landowner. The Offer To Dedicate shall be irrevocable for a period of 21 years, such period running from the date of recording.~~

4.0 RECOMMENDED FINDINGS AND DECLARATIONS

The Commission finds and declares as follows:

4.1 PROJECT PURPOSE AND DESCRIPTION

Project Purpose: The primary purpose of the project is to allow the Diablo Canyon Power Plant (DCPP) to generate electricity until the end of the terms of its existing operating licenses issued by the Nuclear Regulatory Commission (NRC). The power plant's Unit 1 is currently licensed by the NRC until 2021² and Unit 2 is licensed until 2025. However, PG&E has determined that structural wear and tear on the power plant's steam generating units require that they be replaced sooner than originally anticipated. Unit 1 started operating in 1985 and Unit 2 in 1986. The steam tubes within the generators are experiencing a higher than expected rate of wear due to pitting, stress, and corrosion, thus shortening their anticipated operating life. The NRC allows generating units to operate with some level of corrosion, but at the expected rate of wear, PG&E estimates that Unit 1 will reach that level and need to shut down in 2014 and that Unit 2 will need to shut down in 2013.

In 2005, the California Public Utilities Commission (PUC) completed its CEQA review of the proposed project and approved PG&E's request for a rate increase to recover the costs of these generating units. The PUC approved an increase of \$706 million (with a maximum cost cap of \$815 million) for the Steam Generator Replacement Project (SGRP), with costs to be recovered during the terms of DCPP's current operating licenses (i.e., by 2025).

Project Location: The development would take place at the existing DCPP complex about six miles northwest of Avila Beach, San Luis Obispo County (see Exhibit 1 – Location Map). The DCPP complex is about midway between Port San Luis and Montana de Oro State Park. It consists of approximately 772 acres of a federally-required high-security area around the power plant, a nuclear waste storage facility, and associated infrastructure (see Exhibit 2 – Site Layout). Most of this DCPP complex is within the coastal zone. This area is also within the approximately 12,791 acres of lands owned or controlled by PG&E along coastal San Luis Obispo County that extend along the approximately twelve miles of coastline between Port San Luis on the south to Montana de Oro State Park on the north. PG&E manages these lands as open space, as an additional security buffer, for agricultural and grazing operations, and for habitat values. The County's certified LCP designates most of these lands as "Sensitive Resource Areas", as they include significant areas of native habitat used by a wide variety of plant and animal species, including some considered endangered, threatened, or sensitive. The area also includes several significant archaeological and cultural resource sites.

² Although Unit 1 is currently licensed until 2021, both PG&E and the PUC are assuming the NRC will grant an additional three years of operation under the existing license because the first three years of the license period passed before Unit 1 started operating. Therefore, development reviewed in these findings is based on the SGRP allowing Unit 1 to operate until 2024 and allowing Unit 2 to operate until 2025.

Project Description: The project involves installing eight new steam generators at the Diablo Canyon Power Plant, four each at the facility's two electrical generating units. Each generator is about 70 feet long, 16 feet in diameter, and weighs about 330 tons. Each contains over two hundred thousand feet of narrow tubing that allow heat to be transferred from the steam generated by the power plant to a closed loop cooling water system and then to cooling water pumped in from the ocean.

The existing steam generators were built in the 1960s. The alloy used in the tubes in these generators has allowed the tubes to corrode faster than was originally anticipated. The NRC's regulations allow for a certain level of pitting and corrosion in these tubes, but they recognize that there are increased safety risk and maintenance problems for generating units with corrosion above that level. This problem has been identified at a number of similar facilities around the country. Of the 57 facilities of similar design in the U.S., 34 have already completed replacement of their steam generators and 21 are being replaced.

The current rate of corrosion occurring within DCP's generators suggests that they would have to shut down by 2013 and 2014, about a decade before the end of the term of the facility's current NRC operating licenses. Installing the new generators is intended to allow the plant to operate until the end of those license terms.

Main project elements include constructing several buildings and structures to support the generator replacement, removing the existing generators from the power plant and transporting those generators to a storage facility within the power plant high security area but outside the coastal zone, transporting new generators to the site via barge, and installing the new generators. PG&E plans to store the existing generators within the DCP complex until DCP is closed and decommissioned at some point in the future. Project construction would occur over a period of about two years and would add about 900 additional personnel to the power plant's work force.

4.1.2 Proposed Project Elements Reviewed For Coastal Act and LCP Conformity

Much of the proposed project is within the jurisdiction of the County's certified LCP and some is within the Commission's retained jurisdiction. All elements of the project within the coastal zone are within the Commission's appeal jurisdiction.

Proposed Project Elements Within the County Certified LCP Jurisdiction:

- **Site Preparation and Staging:** The project is expected to require about 90,000 square feet of storage, staging, and support areas. PG&E plans to construct five buildings totaling about 55,000 square feet (see Exhibit 2 – Site Layout):
 - Replacement Steam Generator Facility: 10,000 square feet, about 30 feet tall.
 - Warehouse: 15,000 square feet, about 25 feet tall.
 - Fabrication and Weld Test Facility: 10,000 square feet, about 25 feet tall.
 - Contractor Office Space: 10,000 square feet, about 25 feet tall.
 - Containment Access Facility: 10,000 square feet, about 30 feet tall.

These buildings are to be removed at the end of project construction, anticipated to be about two to three years after the start of the project. The project will also require temporary relocation of some existing functions at DCPD into other existing facilities.

- **Steam Generator Removal:** The existing steam generators will be removed from the power plant through existing accessways. They will be transported to a storage site within the DCPD high security area but just outside the coastal zone (see description below in Section 4.1.3).
- **Public Access Enhancements:** PG&E has also provided as part of the proposed project several coastal access enhancements, including:
 - Funding towards improvements to the Point San Luis Lighthouse Road.
 - Dedication of an access easement over the Lighthouse Road.
 - Funding towards or construction of improved access to the Pecho Coast Trail.
 - ~~A deed restriction or dedication of a conservation easement in~~ An offer to conserve the area around the Pecho Coast Trail.
 - Funding to purchase a vehicle to provide disabled access to the Point San Luis Lighthouse.
 - Funding towards a pedestrian and bicycle accessway between Avila Beach and Port San Luis.
 - Funding towards traffic control equipment in Avila Beach.

These access enhancements are more fully described and evaluated in Section 4.4.1 below. As described in that section, the Commission finds that while these enhancements conform to the Coastal Act's public access provisions, they require additional conditions to ensure they are implemented in a manner consistent with the LCP's access requirements.

Proposed Project Elements Within the Commission's Retained Jurisdiction:

- **Delivery of Replacement Steam Generators:** The new steam generators will be barged into the Diablo Intake Cove in two separate shipments about a year apart. A section of floating dock will be removed to allow the barges to offload the generators.
- **Additional Power Plant Operations:** The project will result in about eleven to twelve additional years of power plant operations beyond that which would occur without the project. These operations include development in the form of up to 2.6 billion gallons per day of seawater withdrawal and discharge and water withdrawals from Diablo Creek. Other development due to the proposed project includes continued withdrawal of water from Diablo Creek and continued runoff and discharges from the DCPD site.

4.1.3 Issues Related to Proposed Project Not Reviewed for Coastal Act or LCP Conformity

The proposed project involves several elements and issues that are not part of this CDP or appeal review. These are described below.

- **Radiological Hazards and Safety:** The NRC has exclusive jurisdiction over radiological aspects of the proposed project. The state is preempted by federal law from imposing upon operators of nuclear facilities any regulatory requirements concerning radiation hazards and nuclear safety. The state may, however, impose requirements related to other issues. The U.S. Supreme Court, in *Pacific Gas and Electric Company v. State Energy Commission*, 461 U.S. 190, 103 S.Ct. 1713 (1983), held that the federal government has preempted the entire field of “radiological safety aspects involved in the construction and operation of a nuclear plant, but that the states retain their traditional responsibility in the field of regulating electrical utilities for determining questions of need, reliability, costs, and other related state concerns.” The Coastal Commission findings herein address only those state concerns related to conformity to applicable policies of the Coastal Act, and do not evaluate or condition the proposed project with respect to nuclear safety or radiological issues.
- **Storage of the Existing Steam Generators:** As noted previously, PG&E will remove the existing generators from DCPD and transport them to a storage site within the high security area just outside of the coastal zone. The proposed storage site requires construction of an 18,000 square foot building to store the generators, which is the subject of a Conditional Use Permit issued by the County.

Pursuant to NRC regulations, the existing generators have relatively low levels of radiation. PG&E is required to maintain radiation dose levels “as low as reasonably achievable” (a standard known as ALARA) in compliance with 10 CFR 20.1101(b). When the generators are removed from the DCPD, they will be sealed, covered with a protective coating, and transported to the storage building. Storing the existing generators on site is consistent with PG&E’s current NRC operating licenses. PG&E proposes to keep the original generators on site until the entire DCPD site is decommissioned. Because the storage site and building are outside the coastal zone, they are not being reviewed as part of these findings.

- **Potential Extension of the Power Plant Operating Licenses:** The new generators are expected to have an operating life of about forty years, which would be well past the terms of DCPD’s existing operating licenses. PG&E is considering requesting new or extended licenses from the NRC that would allow the power plant to operate until about 2050; however, PG&E has not yet determined whether it will apply for those licenses, pending completion of a feasibility study. That study will help determine the condition of other DCPD components and will provide information about whether continued operation past 2025 would be viable and cost-effective. Additionally, the PUC’s approval of the rate increase needed to pay for the proposed SGRP was premised on the new generators operating until the end of DCPD’s existing license periods in 2024 and 2025.

Based on the above, it is not yet reasonably certain that DCPD would be able to operate beyond 2025. For the reasons above and because PG&E's applications to the PUC, the County, and the Coastal Commission have been based only on allowing the DCPD to operate until the end of its current license terms, the review herein is limited to the development and associated impacts that would occur through 2025. If PG&E applies for new or extended licenses, that application will require additional review and approval under the LCP and the Coastal Act.

- **NPDES Permit:** The DCPD operations are subject to National Pollutant Discharge Elimination System (NPDES) permits issued by the Central Coast Regional Water Quality Control Board. PG&E's current NPDES permit has been on administrative extension since it expired in 1995. The permit authorizes the facility to take in and discharge up to about 2.6 billion gallons per day of ocean water for cooling. Over the past several years, the Regional Board has determined that the intake and discharge of this cooling water causes greater adverse impacts than were originally predicted at the time the permit was issued. To address these impacts, the Board has been working to identify feasible mitigation measures and to develop a Memorandum of Agreement with PG&E so that selected measures can be implemented. At this time, however, the Board and PG&E have not yet agreed on how to resolve these issues, and work on the MOA has been suspended since 2005 pending resolution of several other related issues, including the outcome of legal challenges to recent Clean Water Act rules applicable to once-through cooling water systems as well as the Coastal Commission's position on this proposed SGRP regarding necessary mitigation at DCPD. These issues are discussed in greater detail in Section 4.4.2 – Marine Biology and Water Quality below.
- **DCPD Decommissioning:** DCPD will be decommissioned after the end of its operating life; however, that process will involve separate environmental review and will require submittal by PG&E of a new CDP application to the Commission and to the County. Therefore, decommissioning is not being reviewed as part of the SGRP or as part of these findings.

4.2 COASTAL COMMISSION JURISDICTION

Permit and Appeal Jurisdiction: Portions of the project are within the jurisdiction of the County of San Luis Obispo's certified Local Coastal Program and are subject to a County CDP. Pursuant to several provisions of Coastal Act Section 30603(a), portions of the proposed project are also within the Coastal Commission's appeal jurisdiction, as the development is within 300' of coastal waters and a coastal bluff, within a sensitive coastal resource area, and involves a major energy facility. Part of the proposed project is within the Commission's retained jurisdiction and requires a CDP from the Commission. As noted above, both the Commission and the County are pre-empted by federal law from imposing requirements related to radiological hazards or safety.

On March 7, 2006, the County of San Luis Obispo Board of Supervisors conditionally approved CDP #DRC2004-165 for construction of the structures needed for the SGRP. On March 27, 2006, the Coastal Commission received the County's Notice of Final Action and associated

records to start the 10-working-day appeal period, which ended on April 11, 2006. Appeals were filed on March 20, 2006 and April 5, 2006 by Mothers For Peace, the Sierra Club's Santa Lucia Chapter, and Commissioners Reilly and Shallenberger.

De Novo Appeal Procedures and Standard of Review: On May 11, 2006, the Coastal Commission determined that appeals of the CDP issued by San Luis Obispo County for this proposed development raised substantial issue regarding conformance with the County's certified LCP. As set forth in Section 13115(b) of the California Code of Regulations, the Commission is to then consider the merits of the proposed development in a *de novo* hearing.

The general procedures for Commission action at the *de novo* hearing stage are typically the same as if the coastal development permit application had been submitted directly to the Commission. However, pursuant to Coastal Act Section 30604(b), the standard of review is the certified LCP rather than Chapter 3 of the Coastal Act. Additionally, pursuant to Coastal Act Section 30604(c), the standard of review for development such as is included in this project, proposed to be located between the nearest public road and the sea, also includes the public access and recreation policies of Chapter 3 of the Coastal Act (Sections 30210-30224). For this combined appeal and CDP hearing, any person may testify before the Commission regarding the proposed project's conformity to Coastal Act provisions; ~~however, for purposes of the *de novo* aspects of the hearing to determine conformity to the LCP, the only persons that may testify are the applicant, those who opposed the application before the local government (or their representatives), or the local government.~~

Appellants' Contentions: In their appeals, the appellants contend that the project as approved by the County does not conform to LCP provisions related to public access, marine biological resources, water quality, and geologic risk. These issues are addressed in the findings below. The appellants also contended that the County should have considered DCP's potential re-licensing as part of its CDP review; however, as described above, that issue is not a part of the current proposed project and the Commission found in its substantial issue determination that the re-licensing issue did not raise an issue of LCP nonconformity.

PG&E's Contentions: In its CDP application to the Coastal Commission, PG&E makes ~~two~~ several contentions. First, PG&E contends that the only development no activities related to the SGRP taking place within the Commission's retained jurisdiction constitute development under the Coastal Act. Second, PG&E argues that the only activity related to the SGRP that might constitute development within the Commission's retained jurisdiction is the temporary removal and replacement of the dock within the Diablo Intake Cove and that the Commission should not review the effects of continued DCP operations. PG&E further contends that the dock removal should be exempt from CDP requirements pursuant to Section 30610(d) of the Coastal Act, since the overall proposed steam generator replacement project should be considered a repair and maintenance activity, or because the offloading activities constitute a "temporary event," exempt from CDP requirements pursuant to Section 30610(i) of the Coastal Act. Finally, PG&E states that any impacts related to continuing operations of DCP are not at issue because the proper environmental "baseline" from which to review the SGRP is an existing operational Plant. Thus, in all, PG&E states that no CDP is required in the area of the Commission's retained jurisdiction.

Regarding PG&E's contention about development within the Commission's retained jurisdiction being limited to the temporary dock removal and replacement, Commission staff takes the position that this conclusion that contention can only be reached by isolating interrelated elements of the proposed project from one another. Staff notes that the proposed SGRP will result directly in more than ten years of additional DCP operations that would not occur if the project did not occur. Staff's original recommendation concluded that those additional years of operations result in substantial development in the form of the daily intake and discharge of up to 2.6 billion gallons of seawater³. Even if the dock removal and replacement was not a part of the proposed project, under this theory this proposed form of development would require a CDP from the Commission. Without the proposed project, the development and impacts associated with DCP's use of 2.6 billion gallons per day of seawater would end about a decade sooner than they would with the proposed project⁴. Additionally, because the Commission is reviewing the proposed project under a combined CDP and appeal of the County's permit, staff concludes that the Commission is able to review all the project-related development and impacts within the coastal zone, which includes not only the dock and the use of seawater, but also the construction and use of the temporary buildings, site runoff, additional traffic, etc., in a comprehensive evaluation of the proposed project's conformity to the Coastal Act and the LCP.

Regarding PG&E's contention that the proposed project should be considered "repair and maintenance" and not be subject to a CDP from the Commission, staff contends that this, too, is an incomplete description of the project for purposes of determining Coastal Act conformity. In its CDP application and in subsequent letters to Commission staff, PG&E states that the proposed project elements within the Coastal Commission's jurisdiction should be considered "repair and maintenance" and should therefore be exempt from CDP requirements. As noted above, PG&E believes that no development related to the project occurs within the

³ Coastal Act Section 30106 states: "'Development' means, on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 (commencing with Section 4511). As used in this section, 'structure' includes, but is not limited to, any building, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line."

⁴ We note that PG&E states in its October 19, 2006 letter that the shutdown dates are only approximate and that it may be possible for both units to operate until the end of their license periods, albeit at much higher maintenance costs. However, given the extensive testimony in the PUC proceedings about the need to replace the generators, the generators' rate of corrosion, and the PUC's decision based on the anticipated shutdown dates, staff believes it is reasonable to assume that the 2013 and 2014 shutdown dates are the dates by which DCP would have to shut down if the generators are not replaced.

Commission's original jurisdiction, and describes the "only potential" development associated with the proposed project within the Commission's jurisdiction as being limited to the temporary removal and replacement of a floating dock to allow delivery barges to be moored along the DCPP shoreline. PG&E cites Coastal Act Section 30610(d)⁵ as the basis for its contention that this development does not require ~~should not required~~ a CDP from the Commission. PG&E additionally contends that elements of the project within the County's LCP jurisdiction should also be considered repair and maintenance, although PG&E acknowledges that portions of the SGRP does not fall within the LCP's permit exemption for certain types of repair and maintenance projects⁶. PG&E concludes that the CDP issued by the County covers all development aspects of the proposed project that require permit approval under both the Coastal Act and the certified LCP. With respect to Coastal Act Section 30610(d), the "repair and maintenance exemption,"⁷ PG&E explains that "because the replacement steam generators will match the specifications of the existing generators and the Plant will operate at the same level of power output after replacement, the Project constitutes an exempt repair and maintenance project." PG&E cites the PUC's Final EIR for the proposition that the replacement steam generators would be designed to match the specifications of the original steam generators. As such, the steam generator replacement project would not result in any change in the rate capacity output (MW) of the units, and it would not change the basic power plant operation in any other way. For example, the Proposed Project would not affect the fuel consumption rate, the cooling water intake, or the thermal discharge of DCPP. See Final EIR at B-12. Thus, PG&E concludes, the Project will not result in an addition to, or enlargement or expansion of, the Plant.

PG&E also relies on the Commission's September 5, 1978 "Repair, Maintenance and Utility Hookups" guidance document and the Commission's regulations at Title 14, Section 13525. PG&E maintains that the guidance document and regulations confirm that the SGRP constitutes an exempt repair and maintenance project because the Project will take place at an electrical utility, will not increase the capacity of the facility, and will not "have a risk of substantial adverse impact on public access, environmentally sensitive habitat area, wetlands, or public

⁵ Coastal Act Section 30610(d) states: "Repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of those repair or maintenance activities; provided, however, that if the commission determines that certain extraordinary methods of repair and maintenance involve a risk of substantial adverse environmental impact, it shall, by regulation, require that a permit be obtained pursuant to this chapter."

⁶ LCP Section 23.03.040(d), which identifies types of development within the County's coastal zone that are exempt from coastal development permit requirements, states, in relevant part: "...that this exemption shall not apply to any specific use which is required to have Minor Use Permit or Development Plan approval by planning area standards of the Land Use Element or Chapter 23.08 of this title." Because the SGRP required Development Plan approval, PG&E recognizes that the project requires a CDP from the County.

⁷ Coastal Act Section 30610(d) states: Repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of those repair or maintenance activities; provided, however, that if the commission determines that certain extraordinary methods of repair and maintenance involve a risk of substantial adverse environmental impact, it shall, by regulation, require that a permit be obtained pursuant to this chapter. Similarly, Section 23.03.040(d)(1) of the County LCP exempts: All repair and maintenance activities that do not result in any change to the approved land use of the site or building, or the addition to, enlargement or expansion of the object of such repair or maintenance.

views to the ocean.” PG&E relies on the PUC’s EIR for its position that the project does not pose a risk of substantial adverse impacts on public access, environmentally sensitive habitat area, wetlands, or public views to the ocean.

PG&E additionally contends that elements of the project within the County’s LCP jurisdiction should also be considered repair and maintenance, although PG&E acknowledges that certain portions of the SGRP, specifically, construction of temporary facilities related to the project, are likely excepted from the LCP’s permit exemption for certain types of repair and maintenance projects.⁸ Thus, PG&E applied for and obtained a CDP for certain “specific uses” of the SGRP that require use permits, namely, the construction of temporary facilities related to the SGRP. PG&E states that the limited scope of the CDP issued by the County evidences the County’s concurrence that the repair and maintenance exemption applies to exempt the remainder of the SGRP from the permitting requirement. See County CDP, Exhibit D (limiting the scope of the CDP to only the temporary facilities). PG&E concludes that the CDP issued by the County covers all development aspects of the proposed project that require permit approval under both the Coastal Act and the certified LCP. PG&E does not contest the validity of the appeals filed pursuant to the issuance of the County’s CDP, and that any environmental impacts arising out of the development of the temporary facilities are before the Commission exclusively pursuant to Appeal Number A-3-SLO-06-017. ~~PG&E does not contest the validity of the appeals filed pursuant to the issuance of the County’s CDP.~~

With respect to the environmental “baseline,” PG&E relies on the CPUC’s determination that the proper environmental setting against which to review SGRP impacts is that of the existing, operational DCP, at its present capacity of 2,200 MW of base-load capacity. See Final EIR Master Response 1. PG&E argues that this environmental baseline includes the level of operations allowed under previous entitlements, whether permitted and subjected to environmental review or not. PG&E maintains that the environmental baseline for the SGRP is not meant to reflect speculation about what may or may not occur in the future, including whether or not the Plant will be forced to shut down prior to the end of its license life. PG&E further contends that the SGRP will not cause any changes to Plant output or operating impacts. Thus, PG&E concludes that impacts related to DCP’s cooling water structure should be outside the scope of the Commission’s review of the SGRP.

The Commission staff additionally notes that the PUC during its CEQA proceedings did not provide the proposed project with a ‘repair and maintenance’ exemption under CEQA, but instead produced a full Environmental Impact Report (EIR) pursuant to its CEQA lead agency responsibilities. That EIR evaluated a full range of issues, alternatives, and mitigation measures that went well beyond what would be required under CEQA for a repair and maintenance project. Additionally, in its comments to the PUC on the EIR, PG&E did not characterize the project as “repair and maintenance”. Neither did PG&E characterize the project as “repair and

⁸ LCP Section 23.03.040(d), which identifies types of development within the County’s coastal zone that are exempt from coastal development permit requirements, states, in relevant part: “...that this exemption shall not apply to any specific use which is required to have Minor Use Permit or Development Plan approval by planning area standards of the Land Use Element or Chapter 23.08 of this title.” Because portions of the SGRP likely required Development Plan approval, PG&E recognizes that these portions of the project likely require a CDP from the County.

maintenance” during the approximately two-and-a-half years of PUC’s ratesetting proceedings. In fact, PG&E in its testimony before the PUC made distinctions between replacing the generators and repairing them – for example, one of the key concerns PG&E expressed during those proceedings was that delaying the generator replacement project would result in an increase in the repair and maintenance costs for the existing generators.

The Commission staff notes, too, that for purposes of the County’s LCP, the County relied on the EIR in its CDP findings. The County adopted numerous mitigation measures identified in the EIR as necessary to avoid or minimize potential project-related impacts related to air quality, biological resources, visual resources, and a number of other issue areas. This, too, goes well beyond what would be necessary for a “repair and maintenance” project under CEQA or pursuant to the certified LCP. Further, the County’s CDP findings do not describe the project as ‘repair and maintenance’, but instead state that it is a ‘significant’ project that requires a substantial number of mitigation measures to conform to the County LCP.

As noted above, the Commission staff considers the proposed project to include more development within ~~its~~ the Commission’s jurisdiction than the dock removal and replacement. ~~Even so, we find that~~ Under this theory, both the project overall and the dock removal and replacement are not “repair and maintenance”. ~~As explained below, the SGRP therefore does not fall under the Coastal Act’s “repair and maintenance” permit exemption, but instead requires a CDP.~~

The Commission staff contends that the proposed project involves several types of development as defined in the Act that require a CDP from the Commission. The project would result in the removal and replacement of the dock as well as removal and discharge of substantial amounts of seawater, removal of coastal waters from Diablo Creek, and various forms of runoff, all of which fall within the Act’s definition of development. Although the Coastal Act exempts certain types of development from permit requirements, under staff’s analysis, this project does not qualify for such an exemption. Coastal Act Section 30610 identifies several types of development that do not require a CDP – certain improvements to single-family residences, maintenance dredging done pursuant to Corps of Engineers approval, replacement of structures destroyed in a disaster, etc. – none of which apply to this proposed project. Section 30610(d) includes a category for repair and maintenance projects; however, that section states that the Commission may adopt regulations requiring a CDP for repair and maintenance projects that might otherwise be exempt if they involve a “risk of substantial adverse environmental impact”. The applicable regulations adopted by the Commission at Title 14, Section 13252 describe several types of repair and maintenance projects that require a CDP⁹. Those include projects such as this one that include

⁹ For example, activities identified in Section 13252(a)(3) that require a coastal development permit include: “Any repair or maintenance to facilities or structures or work located in an environmentally sensitive habitat area, any sand area, within 50 feet of the edge of a coastal bluff or environmentally sensitive habitat area, or within 20 feet of coastal waters or streams that include:

- (A) The placement or removal, whether temporary or permanent, of rip-rap, rocks, sand or other beach materials or any other forms of solid materials;
- (B) The placement or removal, whether temporary or permanent, of mechanized equipment or construction materials.”

work in or near coastal waters or coastal bluffs that involve mechanized equipment or placement or removal of materials. The Staff Report did not accept the Repair, Maintenance, and Utility Hookups guidance document as applicable to this project because Commission staff maintained that the project poses a risk of substantial adverse impacts on public access, ESHA, wetlands, and public views to the ocean. Thus, staff concludes that even if this proposed SGRP were to be considered “repair and maintenance”, it would still require a CDP from the Commission. Staff maintained that PG&E’s arguments regarding the environmental baseline, which are derived from CEQA caselaw, do not apply to the Commission’s review of the project’s conformity with Coastal Act requirements. Staff maintained that the Commission should consider what is likely to occur if the project is not approved when evaluating how approval of the project would affect coastal resources.

~~Based on the above, the Commission finds first, that project related development in its jurisdiction includes both the dock removal and replacement and the ongoing DCPD operations; and second, that the proposed project is not repair and maintenance and it is subject to the Commission’s CDP review and approval.~~

4.3 ALTERNATIVES TO THE PROPOSED PROJECT

The PUC evaluated several project alternatives during the CEQA review, primarily those related to alternative on-site configurations for various buildings associated with the project and alternative locations and methods for delivering the new steam generators. As part of its “No Project Alternative” review, the EIR evaluated various options that might be available to replace DCPD’s 2200 megawatts of electricity should the facility shut down by 2014. Replacing the power using typically sized (~500 megawatts) natural gas-fired power plants would cost more than twice as much than the proposed project and would be subject to as-of-yet unidentified planning, siting, environmental review, permitting, and transmission issues that might prevent the replacement power from being available within this time frame. The EIR also evaluated replacing the power from DCPD with alternative sources, such as wind, solar, and other forms of renewable energy. Those options, too, would involve similar review, permitting, and transmission concerns, which result in similar uncertainty about whether the replacement power could be provided by 2014. The PUC determined that of the alternatives considered, the project as described and configured herein was the environmentally superior project.

4.4 CONFORMITY TO APPLICABLE POLICIES OF THE COASTAL ACT AND THE CERTIFIED LOCAL COASTAL PROGRAM

4.4.1 Public Access and Recreation

4.4.1.1 Applicable Coastal Act and LCP Provisions

Coastal Act Policies: The proposed development would be located between the first public road and the sea; therefore, pursuant to Coastal Act Section 30604(c), the Coastal Act's public access and recreation policies (Sections 30210 – 30224) apply to the part of the proposed project subject to the appeal of the County's CDP. These Coastal Act policies also serve as the basis for the LCP provisions cited below.

LCP Section 23.04.420 states, in relevant part:

Development within the coastal zone between the first public road [and] the tidelands shall protect and/or provide coastal access as required by this section. The intent of these standards is to assure public rights of access to the coast are protected as guaranteed by the California Constitution. Coastal access standards are also established by this section to satisfy the intent of the California Coastal Act.

LCP Section 23.04.420(3) states, in relevant part:

Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:

(A) Access would be inconsistent with public safety, military security needs or the protection of fragile coastal resources; or

(B) The site already satisfies the provisions of subsection (4) of this section...

[Note: see subsection (4) below]

LCP Section 23.04.420(4), states, in relevant part:

(A)(ii): In rural areas where no dedicated or public access exists within one mile, or if the site has more than one mile of coastal frontage, an accessway shall be provided for each mile of frontage...

(A)(iv): The applicable approval body may require accessways in addition to those required by this section where the approval body finds that a proposed development would, at the time of approval or at a future date, increase pedestrian use of any adjacent accessway beyond its capacity.

(B) Accessways shall be a minimum width of five feet in urban areas and ten feet in rural areas.

(C) All new development shall provide a lateral access dedication of twenty-five feet of dry sandy beach available at all times during the year. Where topography limits the dry sandy beach to less than twenty-five feet, lateral access shall extend from the mean high tide to the toe of the bluff.

LCP Section 23.04.420(5) states:

The type and extent of access to be dedicated, and/or constructed and maintained, as well as the method by which its continuing availability for public use is to be guaranteed, shall be established at the time of land use permit approval, as provided by this section.

(A) Dedication: shall occur before issuance of construction permits or the start of any construction activity not requiring a permit;

(B) Construction of improvements: shall occur at the same time as construction of the approved development, unless another time is established through conditions of land use permit approval;

(C) Opening access for public use: no new coastal access required by this section shall be opened or otherwise made available for public use until a public agency or private association approved by the county agrees to accept responsibility for maintenance of the accessway and any liability resulting from public use of the accessway;

(D) Interference with public use prohibited: following an offer to dedicate public access pursuant to subsection (5)(A) of this section, the property owner shall not interfere with use by the public of the areas subject to the offer before acceptance by the responsible entity.

LCP Section 23.04.420(7) states:

Where public coastal accessways are required by this section, approval of a land division, or land use permit for new development shall require guarantee of such access through deed restriction, or dedication of right-of-way or easement. Before approval of a land use permit or land division, the method and form of such access guarantee shall be approved by county counsel, and shall be recorded in the office of the county recorder, identifying the precise location and area to be set aside for public access. The method of access guarantee shall be chosen according to the following criteria:

(A) Deed restriction: shall be used only where an owner, association or corporation agrees to assume responsibility for maintenance of and liability for the public access area, subject to approval by the planning director;

(B) Grant of fee interest or easement: shall be used when a public agency or private organization approved by the planning director is willing to assume ownership, maintenance and liability for the access;

(C) Offer of dedication: shall be used when no public agency, private organization or individual is willing to accept fee interest or easement for accessway maintenance and liability. Such offers shall not be accepted until maintenance responsibility and liability is established;

(D) Procedures for open space easements and public access documents: pursuant to Section 13574 of Title 14 of the California Administrative Code, all land use permits and tentative subdivision maps subject to conditions of approval pertaining to public access, open space, agricultural or conservation easements shall be subject to the following procedures:

All legal documents shall be forwarded to the executive director of the coastal commission for review and approval as to the legal adequacy and consistency with the requirements of potential accepting agencies,

The executive director of the coastal commission shall have fifteen working days from the receipt of the documents in which to complete the review and to notify the applicant and the county of recommended revisions, if any,

If the executive director of the coastal commission has recommended revisions to the applicant, the land use permit shall not become effective pursuant to Section 23.02.034(4) of this title until the deficiencies have been resolved to the satisfaction of the executive director,

The land use permit may become effective (Section 23.02.034(4)) upon expiration of the fifteen working day period if the coastal commission has not notified the applicant and the county that the documents are not acceptable.

LCP Section 23.04.420(8) states:

Coastal accessways required by this section or by planning area standards of the land use element shall be physically improved as provided by this subsection. The need for improvements to any accessway shall be considered as part of land use permit approval, and responsibility for constructing the improvement shall be borne by the developer or consenting public agency. After construction, maintenance and repair may be accomplished by a public agency or by a private entity approved by the applicable review body taking action on the project land use permit.

(A) Typical Improvements That May Be Required. The extent and type of improvements and support facilities that may be required may include but are not limited to drainage and erosion control measures, planting, surfacing, structures such as steps, stairways, handrails, barriers, fences or walls, benches, tables, lighting, parking spaces for the disabled, safety vehicles or general public use, as well as structures such as restrooms or overlooks.

(B) Type and Extent of Improvements -- Required Findings. The improvements described in subsection (8)(A) of this section shall be required to an extent where such improvements:

Are necessary to either assure reasonable public access, protect the health and safety of access users, assure and provide for proper long-term maintenance of the accessway, or protect the privacy of adjacent residents;

Are adequate to accommodate the expected level and intensity of public use that may occur;

Can be properly maintained by the approved maintenance entity;

Incorporate adequate measures to protect the privacy and property rights of adjoining property owners and residents.

LCP Section 23.04.420(9) states:

Where required through land use permit or tentative subdivision map approval, signs installed in conjunction with accessways shall conform to the following standards:

(A) Sign Design. Accessway signs shall use white letters on a brown background. The number and dimensions of signs are to be determined through land use permit review.

(B) Identification Signs. Shall contain the words "COASTAL ACCESS" in three-inch letters at the top of the sign, as well as the name of the accessway, if any, and indicate if there are any hazards or rare or endangered species.

(C) No Trespass Signs. Shall contain the words "RESPECT PRIVATE PROPERTY - NO TRESPASSING".

(D) Hazard Signs. Shall be located at the tops of bluffs or cliffs.

(E) Parking Area Signing. Each parking area shall be posted in a location visible from the public road with a sign that is between two and four square feet in area, stating: "PARKING FOR PUBLIC COASTAL ACCESS". Lettering shall be a minimum of two inches high and clearly legible.

LCP Section 23.04.420(11) states:

In reviewing a proposed accessway, the applicable review body shall consider the effects that a public accessway may have on adjoining land uses in the location and design of the accessway. When new development is proposed, it shall be located so as not to restrict access or to create possible privacy problems. Where feasible, the following general criteria shall be used in reviewing new access locations, or the location of new development where coastal access considerations are involved:

(A) Accessway locations and routes should avoid agricultural areas, sensitive habitats and existing or proposed residential areas by locating near the edge of project sites;

(B) The size and location of vertical accessways should be based upon the level and intensity of existing and proposed access;

(C) Review of the accessway shall consider: safety hazards, adequate parking provisions, privacy needs of adjacent residences, adequate signing, and levels of improvements necessary to provide for access;

(D) Limiting access to pass and repass should be considered where there are nearby residences, where topographic constraints make the use of the beach dangerous, where there are habitat values that can be disturbed by active use.

LCP Section 23.07.178(3) states, in relevant part:

Coastal Access. Coastal access shall be monitored and regulated to minimize impacts on marine resources. If negative impacts are demonstrated, then the appropriate agency shall take steps to mitigate these impacts, including limitations of the use of the coastal access.

4.4.1.2 Background, Existing Access, and Project Description

PG&E (and its wholly-owned subsidiary, Eureka Energy) owns or controls approximately 12,791 acres in and around the proposed project site, with about 4,000 acres of those lands within the coastal zone (see Exhibit 3 – PG&E’s Diablo Canyon Lands). These Diablo Canyon lands cover about twelve miles of coastline. The proposed project would take place within DCP’s approximately 772-acre high security site at about the midpoint of this stretch of coast.

At the north and south end of these Diablo Canyon lands are two popular areas that provide significant public access to the coast, with about one-and-a-half million daily visits each year. The shoreline at the southern end of the DCP lands is within the Port San Luis Harbor District and close to the City of Avila Beach. Coastal amenities at the Harbor District include Point San Luis Beach, parking, a restaurant, recreational vehicle parking, and the boating and fishing facilities associated with the Port San Luis commercial pier. The Harbor District’s offshore area, in San Luis Bay, is used for boating, boat mooring, fishing, and other water-oriented activities. The Port’s Master Plan includes a Coastal Access Plan, which describes a number of goals, policies, and programs, and includes specific policies to provide access and support to the Pecho Coast Trail and Point San Luis Lighthouse. Avila Beach provides a number of recreational opportunities for coastal visitors, such as swimming, sunbathing, dining, and other activities. The northern end of the Diablo Canyon lands borders Montana de Oro State Park. The State Park includes campgrounds and day use areas, and has a visitor center along with several hiking, equestrian, and mountain bike trails. The areas to the north and south of the Diablo Canyon lands are served by a number of mostly two-lane roads that provide access from inland areas to the coast. These roads are often crowded and slow, particularly during summer weekend traffic to the beach areas.

Within the approximately 12,791 acres of Diablo Canyon lands, there is very limited public access. Access within the DCP lands includes the following:

- **Existing public access:** The closest access to the south is the 3.7 mile-long Pecho Coast Trail, which runs from the DCP’s southern entrance at Port San Luis to the now-retired Point San Luis lighthouse and then further upcoast to just beyond Rattlesnake Canyon (see Exhibit 4a – PG&E’s Proposed Point San Luis Deed Restriction or Easement). The trail ends about four miles south of the DCP high security exclusion area.

The trail is a result of the public access requirements in CDP No. 4-82-593 issued by the Commission in 1983 for construction of PG&E’s Simulator Building at DCP. That permit required PG&E to develop a public access plan to provide coastal access within the Diablo Canyon lands. The resulting Pecho Coast Trail Accessway Management Plan provided access to the Pecho Coast Trail via twice-weekly, docent-led, day use-only hikes for up to twenty hikers per hike. The Plan also included a payment by PG&E of \$195,000 into an escrow account to pay for developing and maintaining the trail improvements.

The management plan recognizes the relatively unspoiled nature of the coastline along the Diablo Canyon lands, and includes measures to avoid or limit public safety hazards and to minimize adverse effects on sensitive coastal resources, nearby agricultural operations, and archaeological sites. The trail provides blufftop access only with no direct beach access due to the steep coastal bluffs, the narrow beaches, and the sensitive habitats in this section of the coast. There are a number of improvements along the trail, such as benches, garbage cans, portable toilets, and it includes several marine mammal observation areas. Portions of the trail may close at various times during the year, for instance during seal pupping season, or to allow for necessary maintenance. Hikers are required to pre-register and are provided a pre-visit information package of the guidelines associated with the access, including parking, trail rules and restrictions, security concerns, and other aspects.

One of the key features along the trail is the Point San Luis Lighthouse, which was originally constructed in 1890. The Coast Guard retired it in 1974 and it was then acquired by the Harbor District. It is now being restored by a non-profit group, the Point San Luis Lighthouse Keepers, to allow public access and education.

One characteristic of the trail, however, creates a disincentive for public access to the shoreline. Currently, trail users must access the trail by going through PG&E's security gate and are subject to some of the security measures necessary to protect DCP, such as an identification check, exposure to automatic weapons, etc. Most of these measures go beyond what is needed to allow safe and secure access to the Pecho Coast Trail. PG&E has expressed an interest in reducing trail users' exposure to these measures and has proposed to move the trail entrance away from the security gate (see below).

- **Public access under development:** PG&E is developing two additional areas of public access in the Diablo Canyon lands pursuant to CDP No. A-3-SLO-04-035, which the Commission approved in 2004. This CDP authorized PG&E's spent nuclear fuel storage project, known as ISFSI (Independent Spent Fuel Storage Installation) and included the following access elements¹⁰:
 - North Ranch Access: PG&E is developing a coastal trail along about three miles of the northernmost Diablo Canyon lands. The trail is to extend from Montana de Oro State Park to Crowbar Creek, which is just over a mile north of the DCP. The trail will provide access to at least one beach and three overlooks along this stretch of the coastline. Access will be provided in a manner that protects sensitive coastal resources and allows continuation of the sustainable agricultural practices taking place on those DCP lands.
 - Pecho Coast Trail Access Improvements: PG&E is to also provide improved access to the Pecho Coast Trail by increasing the number of hikes to more than two per week.

¹⁰ The ISFSI is located within the DCP's existing 760-acre high security area. The Commission found that because the ISFSI was expected to be at that site for the foreseeable future, that it would prevent public access to the shoreline within that area in perpetuity. The Commission's findings at that time recognized that other future development within that high security area would not cause further adverse effects to public access if that development maintained the same level of security currently present in that area.

- Enhanced Outreach: PG&E is also developing an outreach plan for these two access areas with a special focus on underserved communities, such as inner city or disadvantaged youths, who may not be aware of coastal access opportunities or may not have the means to visit the coast.
- **Access Enhancements Provided As Part of the SGRP**: PG&E has included with its SGRP several access elements meant to enhance access in and near the Diablo Canyon lands:
 - Access Easement and Improvements on the Point San Luis Lighthouse Road: PG&E will dedicate a public access easement over the road to the Port San Luis Harbor District and will contribute \$700,000 towards road improvements. The improvements are described in County Minor Use Permit D-02-0067, and include measures such as improving drainage and widening portions of the road.
 - Conservation Offer near Point San Luis Lighthouse: PG&E will ~~file an deed restriction or Offer To Dedicate a conservation easement prohibiting most forms of development over~~ conserve approximately 620-1,200 acres near Point San Luis by prohibiting most forms of development to protect the visual qualities of the Pecho Coast Trail and other nearby areas.
 - Improvements to the Pecho Coast Trail: PG&E will provide \$300,000 or the equivalent in construction work to remove barriers to public access by relocating the trail and road entrance away from DCP's security gate.
 - Improved Disabled Access to the Point San Luis Lighthouse: PG&E will provide \$150,000 towards purchase of a multi-passenger vehicle for use by the disabled to access the Lighthouse.
 - Avila Beach – Port San Luis Pedestrian/Bicycle Pathway: PG&E will contribute \$300,000 to the County towards design, permitting, and construction of an accessway between Avila Beach and Port San Luis.
 - Traffic Control Improvements: PG&E will contribute \$380,000 to the County towards traffic control devices in Avila Beach.

4.4.1.3 Access-related Effects of the Proposed Project

The proposed SGRP is located within DCP's existing high security area, which as noted above, currently excludes the public from about 772 acres on the coast and about 1½ miles of shoreline. Regardless of whether the SGRP goes forward, the access limitations in this area would remain the same – that is, with or without the proposed project, the area would exclude public access until the end of DCP's operations and until both the DCP and ISFSI are decommissioned. Therefore, the SGRP is not expected to adversely affect public access at the project site.

The proposed project will, however, affect public access outside the DCP lands due to the additional vehicle traffic brought about by project workers. DCP currently employs about 1,400 permanent workers and has an average daily vehicle count of about 900 vehicles. During DCP's scheduled re-fueling events, an additional 1100 workers are needed at the site. During the approximately three-year SGRP schedule, PG&E expects that up to 900 additional workers would travel to DCP each workday. Because the proposed project is scheduled to occur during

a DCPD re-fueling event, there will be more than double the usual number of personnel on site during parts of that three-year period.

Many of the area roads providing access to DCPD have been identified as being at or near their capacity, with even higher traffic volumes during peak commute times and peak coastal visitation times in the summer. Many of these same roads serve as the primary accessways for the public to get to the shoreline area around Avila Beach and Port San Luis Harbor. There is also expected to be some competition between temporary workers and coastal visitors for short-term housing in coastal communities, although this is expected to be minor.

4.4.1.3 Analysis of Conformity To Applicable Coastal Act and LCP Provisions

Because the proposed project is between the first public road and the sea, Coastal Act policies and LCP provisions require public access to the shoreline be provided as part of this proposed development. Coastal Act Section 30210 requires that maximum public access opportunities be provided, consistent with public safety, private property rights, and protection of natural resource areas. Section 30211 further requires that development not interfere with the public's right of access to the sea acquired through use or legislative authorization. Both the Coastal Act and LCP Section 23.04.420 require that public access be provided for development between the first public road and the sea. Nearly all the Diablo Canyon lands, including the site of the proposed project, are between the first public road and the sea.

LCP Section 23.04.420(3) recognizes that such access might not be required when it would be inconsistent with public safety, military security needs, or protection of fragile coastal resources, or would adversely affect agriculture. Because the shoreline in the immediate vicinity of the power plant is within the DCPD high security zone, public access to that area would be inconsistent with public safety; however, it is feasible to provide access to other nearby shoreline areas if it is managed in a way to ensure security and public safety and to protect fragile coastal resources and agriculture. LCP Section 23.04.420(3) also allows exemptions to the County's access requirements if other adequate access exists nearby; however, because there is no access in the immediate area of the DCPD, the exemptions do not apply to this project. Further, LCP Section 23.04.420(4) specifies that accessways must be provided for developments where there is no access within one mile or if the development site has more than one mile of coastal frontage. Both of these characteristics apply to this development. The nearest existing access is along the Pecho Coast Trail, which ends about four miles south of the DCPD, and the access being developed in the North Ranch area would come within just over a mile of the proposed project site. These access provisions are additionally bolstered by LCP Section 23.04.420(11), which recognizes that access may be required even when it is subject to the concerns identified above. Therefore, the Coastal Act and the LCP require access be provided, as feasible, even with, and in recognition of, the safety, security, agricultural and sensitive habitat concerns in the area.

Although the Commission is pre-empted by federal law from requiring access within the DCPD's 772-acre security zone, access is feasible in areas outside that zone, either in the adjacent Diablo Canyon lands under PG&E's ownership or in other nearby coastal areas. Additionally, LCP

Section 23.07.178(3) recognizes the need for coastal access to minimize impacts to marine resources. Past access to Diablo Canyon lands has been found consistent with public safety, military security, agricultural and other coastal resource concerns, as evidenced by the Pecho Coast Trail and North Ranch Access described above, which allow access in an area where these issues are of concern¹¹.

The LCP also includes specific requirements about how access is to be provided. LCP Section 23.04.420(5) requires that the type and extent of access be determined at the time a CDP is issued, that dedication of access occur before construction permits are issued, and that access improvements be constructed concurrent with the overall project. LCP Section 23.04.420(7) requires that deed restrictions and easements be recorded by the County prior to issuance of a land use permit and that the legal adequacy of the easement be reviewed and approved by the Executive Director of the Coastal Commission.

In sum, the requirements of the LCP and Coastal Act clearly establish that public access must be provided as part of this development. The type and extent of access required is to be established at the time of permit approval and provided concurrent with the proposed project. It is also evident that while access is not appropriate in the immediate vicinity of the DCPD due to security concerns, it may be provided nearby in a manner protective of security, public safety, and other issues of concern. Additionally, the access impacts that would be caused by the proposed project are expected to primarily affect access south of the project site in Avila Beach, the Harbor District, the Pecho Coast Trail, and other nearby areas. It is therefore appropriate that access be provided through a combination of access on nearby Diablo Canyon lands and on other adjacent or nearby coastal properties.

Coastal Access Provided As Part of Proposed SGRP: As described above, PG&E has included in the SGRP several public access elements, including:

- Payment of \$700,000 towards improvements to the Point San Luis Lighthouse Road and a public access easement over the road to be dedicated to the Port San Luis Port District.
- An approximately ~~620~~ 1,200-acre ~~deed restriction or conservation easement offer~~ around Point San Luis, as shown in Exhibit 4—the map attached to PG&E’s December 14, 2006 letter to the Commission (see Exhibit 4a).
- Payment of \$300,000 or the equivalent in construction work to remove barriers to public access on the Pecho Coast Trail.
- Payment of \$150,000 towards purchase of a multi-passenger van to allow improved disabled access to the Point San Luis Lighthouse.
- Payment of \$300,000 towards work needed to design, permit, and build a pedestrian/bicycle pathway between Avila Beach and Port San Luis.
- Payment of \$380,000 for traffic control devices to improve public access in Avila Beach.

¹¹ We also note that managed public access exists within several dozen yards of California’s two other coastal nuclear power plants at San Onofre and Humboldt Bay.

Under the County's Conditional Use Permit, PG&E is additionally expected to develop a trip reduction program for temporary workers associated with the proposed project and to develop an alternative work schedule that would help reduce the number of workers traveling on local roads during peak travel times.

As noted previously, the public is currently excluded from the 772-acre DCP high security exclusion zone where the proposed project would occur and will be excluded from that area for the foreseeable future, the project would not affect public access to the shoreline in that vicinity. The proposed project will, however, affect public access to the shoreline outside the immediate area in the form of additional traffic during project construction. However, the access enhancements included by PG&E as part of the proposed project are expected to adequately mitigate the anticipated impacts. Some of the access enhancements offered by PG&E need to be conditioned to allow them to conform to Coastal Act and LCP provisions related to access requirements (e.g., timing of accessway dedications, minimum dimensions, infrastructure needs, etc.). **Special Condition 3** would ensure those access elements conform to Coastal Act and LCP public access requirements by requiring PG&E to document that it has submitted the proposed funds, filed the necessary ~~deed restriction or easements~~, and described how the access enhancements conform to specific LCP requirements.

4.4.1.6 Conclusion

With the inclusion by PG&E of the above-referenced public access enhancements and with the imposition of **Special Condition 3** to ensure those access elements are adequately implemented, the Commission finds the project will conform to the public access and recreation policies of the Coastal Act and the certified Local Coastal Program.

4.4.2 Marine Biological Resources and Water Quality

4.4.2.1 Applicable Coastal Act and LCP Provisions

Coastal Act Section 30230 states:

Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Coastal Act Section 30231 states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and

entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

LCP Section 23.07.178 states, in relevant part:

The provisions of this section are intended to preserve and protect habitats for marine fish, mammals and birds. Development within or adjacent to marine habitats is subject to the provisions of this section.

a. Protection of kelp beds, offshore rocks, reefs and intertidal areas. Development shall be sited and designed to mitigate impacts that may have adverse effects upon the habitat, or that would be incompatible with the continuance of such habitat areas...

4.4.2.2 Background and Existing Conditions

Location and Site Conditions: DCPD is located adjacent to a relatively undisturbed area of the California shoreline. The shoreline and nearshore waters provide high quality and varied habitat for a number of species. The area offshore includes large expanses of reefs, rocky intertidal areas, and kelp beds, all of which are considered high quality marine habitats. In the twelve-mile stretch between Montana de Oro State Park to the north and Avila Beach to the south, DCPD is the sole industrial user of these nearshore waters and the primary source of adverse impacts.

The DCPD coastal area is rich in marine biological resources. Among the numerous species that use the nearby coastal waters are several threatened or endangered species such as the California southern sea otter, the green sea turtle, and the California brown pelican. The area's nearshore water also provide habitat for a number of marine mammal species during various times of the year. Recent surveys have noted up to two dozen or so different species that are either resident or migrate through the area. These include sea otters, California sea lions, northern elephant seals, harbor seals, and up to twenty cetacean species. The DCPD Intake Cove and immediately adjacent area provides haulout and resting areas for sea lions, seals, and sea otters. The areas just north and south of DCPD include seal pupping and molting areas.

4.4.2.3 Potential Project-Related Impacts

The proposed project has the potential to cause adverse impacts to a number of marine biological resources, as described below.

Potential Adverse Impacts Due to Barge Deliveries: The replacement generators for the project would be delivered by barge into the Diablo Canyon Intake Cove. Delivery will require two to four barges, each delivering two to four generators. The Unit 2 generator delivery is currently scheduled for the fall of 2007 and the Unit 1 generators are scheduled to arrive about a year later. PG&E is planning to remove a section of floating dock within the Intake Cove to allow the barges to moor close enough to shore to offload the generators. The barges would be

secured in place with lines to on-land anchor points rather than anchors placed in the water. A temporary bridge would be extended from the shore to the barge for offloading the generators.

This method of delivery and offloading is expected to have minimal effect to most marine resources within the Intake Cove. The water is deep enough to prevent the barges from grounding and the use of on-land anchors would prevent adverse effects to the seafloor in the Cove. Each barge is expected to be moored and offloaded within one or two days, so they are expected to cause only short-term and minor impacts to the benthic environment due to shading.

During delivery, the barges and support vessels could cause adverse effects to marine mammals due to noise or collision, or due to the animals being disturbed by the approach of vessels. Any of these disturbances could be considered “take”, which is prohibited under the federal Marine Mammal Protection Act¹². The tolerance of various marine mammals to these types of disturbances varies by both individual and species, by time of year, and by the amount or intensity of similar disturbances in the area. Both harbor seals and sea otters use the DCPD Intake Cove year-round as a haul-out site or for rafting. Due to the occasional use of other vessels within the Intake Cove, and due to the proximity of ongoing activities related to DCPD operations, these animals likely have an increased tolerance for nearby activities; however, they are still likely to be temporarily displaced during the steam generator deliveries. Harbor seals will likely be able to use nearby sections of the Intake Cove’s breakwater or other rocky shoreline habitat, and sea otters will likely be able to use nearby kelp beds near the Intake Cove.

Adverse Impacts Caused by DCPD’s Cooling System: DCPD uses up to about 2.6 billion gallons per day of seawater to cool its generating units¹³. The seawater is pulled in through an intake structure and then passes through thousands of feet of narrow tubes in the generating units, where it carries off heat from steam passing through another set of similar narrow tubes carrying water from a closed-loop system that carries steam and water to and from the reactor. The heated cooling water is then discharged into Diablo Cove. DCPD’s use of seawater for cooling, along with several other operational discharges, is permitted through an NPDES permit issued by the Central Coast Regional Board. DCPD’s most recent NPDES permit, issued in 1990, has been on administrative extension since 1995. The facility is authorized to discharge its cooling water at a temperature up to 20° F above the ambient seawater temperature.

DCPD’s use of seawater for its cooling plant creates three main types of adverse impacts – entrainment, impingement, and thermal effects – each of which is described below, along with a brief description of studies conducted at DCPD to determine the extent of these impacts.

¹² The definition of “take” under the Act includes intentional or unintentional harassment, any act that could cause injury or death, and any action that changes the behavior of the animal.

¹³ To provide a comparison and a sense of scale, the 2.6 billion gallons of ocean water DCPD uses each day is equal to about 8,000 acre-feet, or the amount of water that would cover 8,000 acres (more than 12 square miles) with a foot of water. Over the course of a year, DCPD uses almost a trillion gallons of ocean water, or about 3 million acre-feet, which would cover over 4500 square miles up to a foot deep.

- **Entrainment:** Entrainment occurs when small organisms, such as plankton, fish eggs, larvae, etc., are pulled into the intake. Once-through cooling systems like the one used at DCPD are considered to cause essentially 100% mortality due to the organisms being subjected to high temperatures or high pressures within the system. Entrainment causes direct impacts by killing the small organisms that are pulled through the cooling system and causes indirect impacts to the larger marine community by altering the food web and removing part of the community's productivity. The loss of eggs and larvae due to entrainment may or may not result in losses of adult members of a given population; however, the losses from large cooling systems cause a loss or change in ecosystem resources and can cause alterations in community structure.

Determining Entrainment Impacts: Determining the scale and the extent of entrainment impacts generally requires a study that includes at least one year's worth of regular sampling data and application of any of several modeling approaches. The samples are taken from waters near the intake and from nearby source waters. Organisms captured are identified to the lowest possible taxon. In most cases, all organisms cannot be identified, so the known taxa serve as indicators or surrogates for the full set of affected species. Of the various models available, the most acceptable is known as the Empirical Transport Model (ETM). It is used to provide an estimate of the proportion of organisms lost due to entrainment compared to the overall number of organisms in a source water body. The ETM approach allows estimates of loss for each identified species, in part by recognizing that each species is subject to entrainment during particular life stages. Once the species subject to entrainment are identified, the ETM approach then determines what period of time each of the species are subject to entrainment – that is, based on local currents, it determines how many days an egg stage or larval stage of a particular species is subject to being pulled into the cooling system rather than be able to move away and escape from it. This period varies by species, ranging from just a few days to several weeks. It will also vary by whether it is calculated using the maximum or mean duration of larvae in the source water. As a very simple example, if individuals of a species are “entrainable” for the first five days of their lives and the average currents in the area move past the cooling system intake at half a mile per hour, that species has a source water area of sixty miles (5 days x 24 hours x 0.5 mph = 60 miles). Determining source water areas is complicated by seasonal changes in current speed or direction and whether the species are from nearshore or offshore areas, but the basic concept is the same.

The proportion of larvae lost to larvae in the source water (known as “proportional mortality”) is then multiplied by the source water area to provide an estimate of how much overall production of the species in this area is lost due to entrainment. This result of this calculation, known as “habitat production foregone” (HPF) can be expressed in acres or in miles of shoreline. Even a low “proportional mortality” figure can result in a large impact if the loss occurs over a large stretch of shoreline. Using the example above, if 5% of the larval stage of that species is lost due to entrainment, that represents that species' production along about three miles of shoreline (0.05 x 60 miles = 3 miles). The HPF for the various species can be kept separate or can be combined as an overall average figure.

Entrainment at DCP: Applying ETM to the most recent entrainment studies at DCP has shown that the cooling system causes significant loss of production along many miles of coastline and over a relatively large offshore area. PG&E, in conjunction with the Regional Board and a technical workgroup including independent scientists, conducted an entrainment study in the late 1990s. The study identified about three dozen species or genera of both nearshore and offshore fish that represent over 90% of the sampled species. The “habitat production foregone” figures for many of the identified species range up to several dozen miles of shoreline or several hundred acres of offshore waters. For example, the study showed that the HPF for Pacific sardines ranged from 72 to 400 acres of offshore waters¹⁴. For the clinid kelpfish, which is a nearshore species, the study showed that the HPF ranged from about 10 to 33 miles of nearby shoreline¹⁵.

Results of entrainment studies such as this cannot reflect all the variables that may affect populations within a given area – for example, populations may decrease or increase due to seasonal or longer term changes, the habitat within the source water areas is likely to include characteristics that affect particular species and may be of variable quality within the same source water area, etc. These methods do, however, provide a good sense of scale of the overall impacts of a given cooling system. In the case of DCP, the entrainment sampling process lasted for about two-and-a half years rather than the standard one-year, and the habitat within many of its source water areas is of relatively good quality; therefore, the data may reflect actual entrainment impacts more accurately than studies done elsewhere for shorter times or for more variable habitats.

Overall, the entrainment study results show that DCP causes a substantial loss of production in local and regional nearshore waters. When considering these losses together, the Regional Board’s scientists have estimated that the number of organisms killed by the cooling system in a year is roughly equivalent to the organisms produced annually in 210 to 500 acres of reef and rocky substrate habitat – that is, when summed and averaged, the overall proportional mortality of DCP would require about 210 to 500 acres of new reef and rocky habitat to produce and replace the number of organisms killed in the cooling system each year. In the offshore waters near DCP, rocky reef habitat is considered highly productive, so this impact represents a substantial loss to the local and regional offshore environment.

- **Impingement:** Impingement occurs when fish or other organisms are caught on an intake’s screening system and are either killed or injured. The impingement rate for an intake is primarily a function of water velocity. The current Clean Water Act regulations (at 40 CFR 125) applicable to cooling water systems establishes a maximum velocity of 0.5 feet per

¹⁴ For mean larval duration, proportional mortality loss of 0.03% in a source water area covering 379 square miles resulted in an HPF about 72 acres. For maximum larval duration, a proportional mortality loss of 0.01% over 6,395 square miles resulted in an HPF of about 400 acres of offshore waters.

¹⁵ For mean larval duration, the proportional mortality loss was 31% along a source water area of 33 miles of shoreline, which results in an HPF of about 10 miles of nearshore waters. For maximum larval duration, proportional mortality was 41% from a 78-mile source water body, representing an HPF of about 32 miles of nearshore waters.

second as the required Best Available Technology. When velocities are below that level, fish are usually able to swim away from the pull of the intake. Impingement rates may also vary seasonally or when schools of fish get close to the intake.

A 1985-86 impingement study at DCPD showed that the cooling system impinged about 400 fish and 1,300 crabs during the one-year sampling period. This is a relatively insignificant impact when compared to impingement rates at other power plants; however, DCPD operates its intake at velocities greater than 0.5 feet per second and may be required to either make operational changes or provide impingement mitigation.

- **Effects of Thermal Discharge:** The cooling system causes an additional thermal impact when the heated water is discharged back in to the ocean. DCPD is permitted to discharge this water at temperatures up to 20°F above ambient seawater temperature.

In 1976, PG&E started biological monitoring in nearby marine waters, largely to identify baseline conditions, establish control areas, and to identify effects caused by DCPD's thermal discharge. In 1983, the State Water Resources Control Board issued Order WQ 83-1, which allowed PG&E to withdraw and discharge about 2.6 billion gallons per day of seawater, along with other facility-related discharges. The Order also identified a set of biological impacts predicted to be caused by the temperature increase, though it stated that while these impacts would somewhat degrade beneficial uses, they would still allow beneficial uses to be adequately supported, as required by the state water quality standards. In 1995, the Regional Board established a technical workgroup to start a comprehensive review of the monitoring program data. In 1997, the workgroup published a report identifying a number of impacts that exceeded those that had been predicted. In 1998, PG&E published its own report that came to different conclusions about many of these impacts. The Regional Board staff reviewed these reports and concluded that these impacts represented a violation of PG&E's NPDES permit. They determined the following differences between predicted and actual impacts:

- Along the intertidal zone, the initial permit had predicted that thermal effects would occur along less than a mile of shoreline. The later review revealed impacts extending about 1.8 miles. There was also an unexpected increase in the amount of bare rock within Diablo Cove's intertidal areas.
- Within the nearby subtidal areas, initial predictions were that the discharge would affect about 40 acres. The actual impact turned out to include about 56 acres of bull kelp habitat, and up to about 105 acres of bull kelp habitat during El Nino events.
- The initial permit predicted that the community structure and population would change in about a third of Diablo Cove during a few months of the year. The actual impacts show continuous major reductions in species and populations within the Cove, including an almost complete loss of some fish and algae species. The thermal discharge has also apparently resulted in a substantial decline in black abalone populations due to an increased occurrence of withering syndrome.

In 2000, the Regional Board staff issued a draft Cease and Desist Order alleging that PG&E was violating several water standards and a provision of its NPDES Permit related to thermal discharges. The draft Order would have required PG&E to submit a report that described how it would modify DCPD to meet conditions of its Permit or submit a proposed mitigation program to address the thermal discharge impacts. Later that year, the Board held a hearing on the draft Order. There were a number of differences between the positions of Board staff, PG&E, and various commenters. The Board did not adopt the Order, but directed its staff to work with PG&E to resolve their differences and to also consider additional mitigation measures that might be needed to address entrainment impacts. The Board staff has continued to evaluate both impacts and potential mitigation measures for DCPD and has developed a draft Consent Judgment with PG&E; however, there are not yet any mitigation measures in place to address the identified impacts.

- **Cumulative Impacts:** DCPD is one of 21 coastal power plants in California that use seawater or estuarine water for cooling. The total NPDES-permitted inflows for these plants is about 17 billion gallons per day. Although some of these plants operate only sporadically and most of the plants do not use their full permitted amount of cooling water, each causes impacts similar to those described above and they cumulatively contribute to the ongoing long-term habitat decline in California's coastal waters¹⁶.

The discussion above illustrates the main impacts associated with DCPD's cooling system. The proposed SGRP would result in the above adverse effects continuing about ten years beyond when they would end if not for the project – with the project, the impacts would end by about 2025; without the project, they would end about 2014¹⁷. Additionally, due to predicted overall declines in ocean conditions in the coming years, those future effects would likely increase in severity¹⁸. The proposed project therefore ~~represents~~ is associated with approximately a decade's worth of continued significant adverse impacts.

¹⁶ See, for example the California Energy Commission's report, Issues and Environmental Impacts Associated With Once-Through Cooling At California's Coastal Power Plants, June 2005.

¹⁷ In an October 19, 2006 letter, PG&E stated that DCPD could possibly operate until the end of its current license terms without the SGRP and that the Commission should therefore not consider the adverse effects associated with ongoing use of the DCPD cooling system. However, based on testimony provided by PG&E and other parties during the California PUC proceedings, it is evident that operating the existing generators beyond 2014 would increase safety risks and that it is PG&E's intent and its preferred option is to implement the project. We note that none of the parties to the PUC proceedings disputed PG&E's claim that the steam generators had to be replaced in order for DCPD to operate until the end of its current license periods. We note, too, that PG&E's testimony in those proceedings focused in part on the need for timely replacement of the generators, since delays would increase the risk of failure and would increase the repair and maintenance costs of the existing generators.

¹⁸ See, for example, Orr et. al., Anthropogenic Ocean Acidification Over the Twenty-First Century and its Impact on Calcifying Organisms, Nature, September 29, 2005; Dybas, Cheryl Lyn, On a Collision Course: Ocean Plankton and Climate Change, Bioscience, August 2006; and Vilchis, et. al., Ocean Warming Effects on Growth, Reproduction, and Survivorship of Southern California Abalone, Ecological Applications, April 2005.

4.4.2.4 Analysis of Conformity To Applicable Policies and Legal Requirements

Coastal Act Policies and LCP Provisions: The Coastal Act provisions cited above and applicable to development such as the SGRP maintain, enhance, and where feasible, restore marine resources. They also require that the marine environment be used in a manner that sustains biological productivity and maintains healthy populations of all marine species. Coastal Act Section 30231 specifically requires that biological productivity be maintained, and where feasible, restored, through various means, including by minimizing the adverse effects of entrainment. The LCP also requires development be protective of marine habitat, particularly kelp beds, offshore rocks and reefs, and intertidal areas.

Marine Mammal Impacts: The SGRP's steam generator delivery at the Diablo Intake Cove has a high potential to disturb marine mammals that use the Cove and nearby shoreline areas. The Cove is used as a seal haul-out site during most of the year and sea otters are often present. While these animals are likely used to some level of disturbance due to the ongoing DCPD activities, the steam generator deliveries could result in "take". **Special Condition 4** is intended to reduce the risk of "take" through development by PG&E of a marine mammal protection plan. The plan would include the measures and procedures that PG&E will implement to avoid interactions with marine mammals during vessel movements within 1000 feet of the Diablo Cove breakwater. The plan will require the use of at least two NMFS-approved monitors, will require reporting of any incidents that could be considered "take", and will include a description of the training that will be provided to project personnel on techniques to avoid harming or harassing marine mammals. With the imposition of **Special Condition 4**, the SGRP will be sufficiently protective of marine mammals to conform to this aspect of Coastal Act Sections 30230 and 30231.

Impacts Caused by the Proposed SGRP's Use of the DCPD Cooling System: ~~As documented above, the SGRP's use of almost 2.6 billion gallons per day of ocean water for cooling would not conform to Coastal Act provisions requiring that marine biological resources be "maintained, enhanced, and where feasible, restored", and would not protect marine habitats as required by the LCP. The proposed project would cause ongoing and possibly increased adverse effects to marine resources along several miles of the California coast. Additionally, and as noted above, continuing degradation of the ocean environment due to causes beyond DCPD—such as global warming, ocean acidification, loss of fish stocks, etc.—suggest that the effects of future impacts associated with DCPD are likely to be more severe than they have been in the past. The proposed project's ongoing withdrawal of over two billion gallons per day of the habitat provided by seawater does not allow it to "maintain" biological resources or "sustain the biological productivity of coastal waters", as is required by Coastal Act Section 30230. Neither does its use of ocean water conform to the requirement that the adverse effects of entrainment be minimized, as is required by Coastal Act Section 30231. The only way the proposed SGRP could conform to these requirements would be through avoiding the use of once through cooling. PG&E contends that the SGRP will not result in any new impacts related to the Plant's continuing operation of its cooling system. It has argued that the SGRP will not increase the capacity or output of the Plant, or increase the cooling system impacts compared to those that existed prior to commencement of the SGRP, and therefore the cooling system's impacts are not~~

new impacts caused by the SGRP. PG&E concludes that its voluntary proposal to conserve 1,200 acres will serve to enhance the nearshore environment over existing conditions prior to the Project and comply with all relevant LCP and Coastal Act marine biological resources and water quality policies.

Commission staff, however, contends that the SGRP will allow DCPD to operate for 10 years beyond the point in time it would otherwise shut down, and that 10 years of operations will result in 10 years of impacts related to the DCPD cooling system. As explained in detail below, the Commission finds that the Project as proposed and conditioned, with PG&E's offer to conserve 1,200 acres of its lands, will comply with all applicable LCP and Coastal Act requirements.

Overall, as discussed below, the Commission finds that the proposed project as conditioned would comply with all relevant LCP and Coastal Act marine biological resources and water quality policies.

Mitigating Impacts Caused by the SGRP's Use of DCPD Cooling System: The studies cited above identifying the impacts of DCPD's cooling system have also resulted in consideration of a number of mitigation approaches to avoid, minimize, or provide compensatory mitigation for the cooling system's adverse effects¹⁹. As noted previously, the Regional Board considered in 2003 a draft Consent Judgment to allow continued DCPD operations and to ensure adequate mitigation of its impacts. Most of the effort towards identifying mitigation options has been led by the Board staff pursuant to establishing conformity to Clean Water Act requirements. The Board

¹⁹ Mitigation sequencing: One of the main purposes of mitigation is to provide a functional replacement of the habitat or ecosystem functions that would be lost due to a proposed project; that is, to develop mitigation that results at minimum in "no net loss" of habitat or functions. The general approach to selecting and implementing an appropriate mitigation approach for a given project is to first avoid the impacts, to then minimize the impacts, and to finally compensate for the impacts that remain. The CEQA Guidelines at Section 15370 include a similar sequence for selecting mitigation. The third step, compensatory mitigation, also includes a preferred sequence – to first create environmental conditions similar to those being lost; to next restore or enhance conditions similar to those being lost; and to finally preserve or protect an area that provides habitat value. It is generally preferable to select "in-kind" mitigation; that is, to develop mitigation sites with habitat similar to that being adversely affected, rather than to develop "out-of-kind" mitigation. Similarly, it is generally considered better to develop mitigation on-site rather than off-site.

As the selection of an appropriate mitigation approach moves down through the mitigation sequence, the ratio of the amount of mitigation needed to compensate for lost habitat goes up. In most cases, the "no net loss" standard requires that the selected mitigation site be sized to provide more habitat or functions than those lost at a project site; that is, mitigation is often required to be provided at greater than a 1:1 ratio. This higher ratio is needed due to a number of mitigation characteristics. For example, it often takes years (or decades) for an enhanced or restored mitigation site to provide a similar level of ecosystem functions as that of the level at the project site. A higher ratio therefore makes up for the lost time when the mitigation habitat did not fully function. Similarly, when mitigation is needed to replace lost high-quality habitat, a restoration or enhancement mitigation site will often be larger than the project site to reflect the overall lower quality of the habitat that comes about through mitigation.

To reflect these characteristics, mitigation ratios can range from as low as 1:1 when mitigation is certain, immediate, and of equivalent value as the lost habitat, to 30:1 or higher for lower quality or delayed mitigation to make up for the loss of high-quality habitat. For example, if a proposed project results in the loss of 1 acre of high quality wetlands, the mitigation requirement could be that 30 acres of similar wetlands be preserved.

implemented a technical work group consisting of Board staff, staff from the Department of Fish and Game and PG&E, and several independent scientists to help determine what mitigation measures might be feasible to address the impacts identified above. The primary mitigation options were described and evaluated in Board staff reports and in Diablo Canyon Power Plant: Independent Scientists' Recommendations to the Regional Board Regarding "Mitigation" for Cooling Water Impacts, a report prepared by the technical work group's independent scientists. While Clean Water Act conformity involves a different set of requirements than the Coastal Act, the Board's efforts provide helpful guidance about how to determine appropriate and feasible mitigation for the proposed SGRP.

The Board has considered several variations of a mitigation "package" to address the range of DCPD impacts. Mitigation elements considered are described below.

- **Avoidance and minimization:** The Regional Board staff and its working group evaluated the feasibility of DCPD avoiding the impacts entirely through use of alternative systems that would use little or no seawater, such as cooling towers, dry cooling, and experimental methods such as fine mesh screens. They concluded, however, that alternative closed cooling systems were too costly (up to approximately \$1.3 billion) to be feasible. They also considered relocating the intake and outfall structures further offshore to reduce their biological effects, but again concluded that moving the structures would be too costly and would primarily change the location of many of the impacts. They considered the installation of fine mesh screens over the DCPD intake, but this, too, was considered infeasible, in large part because the technique is still experimental and the limited studies on the system suggest it may not be effective. The overall conclusion of these studies is that there are no feasible methods to avoid or minimize the entrainment and thermal impacts associated with the cooling system. ~~Without avoiding or minimizing these impacts through use of an alternative cooling system, the SGRP would not maintain or enhance marine biological resources and would therefore not conform to Coastal Act Section 30230. The only way to entirely avoid these impacts would be to convert to an alternative cooling system.~~
- **Compensatory mitigation:** The studies cited above also evaluated several forms of mitigation that might compensate for the cooling system impacts. The benefits and concerns of each are briefly discussed below.
 - **Artificial Reefs:** The coastal area near DCPD has a relatively high abundance of rocky tidal and subtidal habitat. As noted above, the Board's scientists determined that annual production losses caused by DCPD's entrainment impacts could be largely mitigated through creation of from 210 to 500 acres of artificial reef habitat. The cost estimates for creating this amount of reef would range from about \$10.6 million to \$26 million (in 2003). However, because the DCPD area has such a relatively high proportion of this habitat type, this option would require significant additional study to determine whether artificial reefs would provide meaningful mitigation. There may be few locations available where reefs could be placed or where they would result in the necessary level of mitigation.

This option, if part of an eventual settlement agreement between the Regional Board and PG&E, would require review and approval under a separate CDP application. PG&E has objected to this approach, in large part based on its contention that the economic costs of DCP's entrainment are only about \$26,000 per year and that the cost of the reefs would be "wholly disproportionate" to the costs of the impacts. This calculation is based largely on including only those costs associated with the potential value of adult fish that could have been caught had they not been entrained as eggs or larvae. This economic approach does not take into consideration the ecosystem and food web value of those eggs and larvae, and as such, is insufficient for determining feasibility or conformity for purposes of Coastal Act compliance.

- **Fish Hatchery:** This option was considered but rejected, since it would result in potential benefits to only a few of the many species adversely affected by entrainment. Using hatcheries for mitigation also raises concerns about whether the released fish will affect the genetic diversity of the base population.
- **Marine Habitat Restoration:** Although the marine habitat near DCP is largely in good condition, there are some opportunities to restore degraded areas. The primary option identified is along the shoreline of Montana de Oro State Park, just to the north of the Diablo Canyon lands. The main method of restoration proposed, however, would be to limit public access to this area of the shoreline. While the impacts of public access appear to be the primary cause of habitat degradation along the State Park's shoreline, limiting access would require a substantial change in the area's management and may run counter to Coastal Act provisions that largely support increased access to the shoreline. This option, too, would require additional study and would be subject to CDP review.
- **Abalone Research:** Because abalone is one of the significant species directly affected by DCP's thermal discharge, one of the mitigation options considered was to provide funding for abalone research. Again, this option would have limited benefit since it would benefit just one of the hundreds of types of organisms affected by the DCP cooling system. However, it is being given further consideration by the Department of Fish and Game in part to support their marine enhancement goals.
- **Use of PG&E Marine Labs:** One option considered is to allow the use of PG&E's marine laboratories by nearby educational groups; however, this option would not necessarily result in mitigation for the identified impacts.
- **Funding for Marine Reserves:** Marine reserves would likely provide mitigation for some of the DCP cooling system impacts, and some of this mitigation would likely be relatively high quality. While this mitigation option could result in substantial benefits, including direct benefits to some of the species entrained in DCP's cooling system, for purposes of Coastal Act conformity, the Commission generally does not consider funding in and of itself an adequate mitigation measure and so does not consider such a proposal

sufficient. This option would require substantial additional planning to identify with certainty how the funds would be used and what benefits would accrue.

- **Funding for the CALCOFI Program:** The California Oceanic Cooperative Fisheries Investigation (CALCOFI) is a joint effort of several federal and state agencies studying California's marine environment. It has focused on identifying long-term trends in offshore plankton communities and their effects on various aspects of the marine ecosystem. Similar to the above issue, however, it would not necessarily result in appropriate mitigation for the impacts identified at DCP, as most of its data collection takes place further offshore and the data collection may not directly benefit the marine communities affected by DCP.
- **Funding for the Central Coast Ambient Monitoring Program:** This program provides several forms of monitoring of conditions in and along the nearshore waters in the Central Coast area. Again, similar to the above, however, neither funding nor ambient monitoring represent mitigation for the identified DCP impacts.
- **Conservation Easement:** The Regional Board considered including a form of conservation easement as part of its mitigation approach. The easement would have limited development within about 2,000 acres of shoreline and upland areas in the northern part of the Diablo Canyon lands between Fields Cove (just north of DCP) and Coon Creek (just south of the boundary with Montana de Oro State Park. The coastal trail approved by the Commission as part of DCP's ISFSI project is within this area. The easement would have allowed for ongoing agricultural practices and limited public access within this area. The draft agreement also called for protecting through Best Management Practices about 547 acres in the Coon Creek watershed to ensure that ongoing cattle grazing activities do not further degrade the nearshore environment. The draft agreement would have also required PG&E to provide a \$200,000 endowment for easement stewardship costs.

The agreement as proposed in the draft Consent Judgment mentioned above included provisions that would have limited the proposed easement's effectiveness. In a September 2005 letter, Commission staff identified several of these provisions as key deficiencies that would have resulted in conflicts with public access conditions of the CDP issued by the Commission for the ISFSI project. The proposed language also included a "termination clause" that would have allowed PG&E to opt out of the easement if any agency required any additional conditions affecting the power plant's cooling water system. While overall supportive of using a conservation easement to provide mitigation, Commission staff was concerned that this settlement language would fall short of providing an adequate level of protection or mitigation.

As noted above, these mitigation options have been considered as a part of a draft Order and draft Consent Judgment, but none have been implemented. There is still disagreement among the Board, PG&E, the Department of Fish and Game, and Commission staff about which mitigation measures are necessary and feasible. Although PG&E had agreed to the draft Consent

Judgment, the Regional Board directed its staff to consider whether a different mix of mitigation measures might be more suitable. The agreement has also been on hold pending a decision in federal court on a challenge to the U.S. EPA's recent rules about how once-through cooling intakes are to comply with the federal Clean Water Act. The Board has also deferred its decision to determine how the Commission will implement the public access requirement of PG&E's ISFSI project to allow coordination of the two agency's mitigation approaches and requirements. Board members have expressed less interest in the easement option in part due to concerns about how public access will mesh with the easement. However, the Commission's public access condition requires the access to be protective of the area's sensitive resources and is to be managed in part of a sensitive resource inventory of the area.

In 2005, Regional Board staff provided an update on the mitigation options, noting that there was still disagreement between the staff and PG&E on certain issues but that the involved parties were considering funding of marine protected areas as a main mitigation option. At this point, however, the adverse effects of DCP's cooling system remain largely unmitigated.

PG&E argues that even if the Commission could consider impacts from the operations of the Plant from 2014 through the end of the license terms, impacts to water quality and marine resources attributable to the Plant's cooling water system are subject to the ongoing jurisdiction of Department of Fish and Game and the Regional Board. PG&E argues that under Coastal Act Sections 30411 and 30412 the Coastal Commission cannot require conditions or mitigations that go beyond the requirements of Department of Fish and Game and the State or Regional Board. The Commission does not interpret Sections 30411 and 30412 as limiting the Commission's authority to address the entrainment and impingement effects associated with the cooling water system.

PG&E further contends that its voluntary conservation offer to preserve 1,200 acres of adjacent uplands is sufficient to address the SGRP's cooling water impacts.

Of the compensatory options considered, the primary remaining option of the scale needed to address the SGRP's cooling water impacts is some form of protection over the nearby Diablo Canyon lands. PG&E has provided as part of its project a conservation offer to protect from development approximately 1,200 acres around Point San Luis in the southern portion of PG&E's Diablo Canyon lands (see PG&E's description in its letter of December 14, 2006). While this conservation offer would provide mostly out-of-kind and offsite compensation in the form of upland habitat protection, it would also provide some direct benefits to the marine environment through both avoidance and minimization of adverse water quality effects that could be caused by increased coastal development within the protected area. This conservation offer would protect nearshore and intertidal habitats from potential future degradation that would accompany the types of development that could occur in the Diablo Canyon lands. In 1989, PG&E identified exceptional habitat values in its survey of this area, which surrounds the Pecho Coast Trail at the south end of the Diablo Canyon lands.

Many of the species entrained at DCPD either use or originate in these nearshore and intertidal areas, so by maintaining the existing conditions of this area, the protected land could ensure continued production of individuals beyond those entrained. These Diablo Canyon lands are within coastal watersheds, so any benefits of development limits in the uplands adjacent to the coast would accrue in the nearby coastal waters affected by DCPD.

Protecting these lands from development other than the types of development currently existing or required on these lands (i.e., development associated with habitat protection, open space, public access, existing agricultural uses, and DCPD security) would benefit marine resources and coastal water quality; however, many of these benefits would not be fully realized for several years. PG&E has thus far during DCPD's operating life expressed its interest in allowing only the existing uses to continue and it is not likely that PG&E would propose additional incompatible development during the remaining life of the facility. This means that protecting these lands from additional development would not compensate for the SGRP's cooling system impacts for several years – either until the end of DCPD's operations or until PG&E changed its management approach to these lands to allow additional development. Therefore, such land protection would result primarily in the accrual of future potential benefits – that is, its primary value would be in preventing the potential future adverse impacts associated with increased development of the Diablo Canyon lands. This results in the protected lands having a relatively low current value for mitigation but a much higher future value. On the other hand, the marine resource effects that would be caused by the SGRP would last for a specific and limited period – no later than the expiration of Diablo Canyon's existing NRC licenses in 2023 and 2025. Further, if the SGRP were not approved, some level of once-through cooling impacts could continue for some period beyond the planned replacement dates in 2009 and 2010 and even beyond the anticipated shutdown dates in 2014 and 2015. While PG&E has used these dates as the basis for its anticipated cost recovery and rate increase, it has also stated that the generators might be able to continue operating later than 2015, albeit with higher maintenance costs.

The primary issue to resolve, then, is the appropriate size of the conservation area. PG&E has offered as part of its project a 1,200-acre area to be preserved. As noted previously, DCPD's daily use of up to 2.6 billion gallons per day of seawater habitat represents an annual loss of biological production from nearly a trillion gallons of seawater, which in turn represents the amount of water that would cover over 4500 square miles one foot deep. The source water for the DCPD cooling system extends up to tens of miles along the shoreline. Further, this seawater is taken from a rich and diverse area of California's coast, with significant habitat value and a multitude of species. The effects of this amount of seawater withdrawal and discharge are therefore more substantial than they might be in an urban harbor or in a nearshore area with fewer habitat types.

By any of several methods to determine mitigation ratios, the SGRP's cooling system impacts would require substantial land protection to attain anything close to goal of "no net loss" of habitat functions and values:

- The most recent entrainment study at DCPD shows that the cooling system entrainment losses represent what would otherwise be produced in from 300 to 1000 acres of reef

habitat. While land protection would result in mostly “out-of-kind” and “off-site” mitigation, this study provides guidance on how to determine the appropriate size for an easement. The mitigation needed is meant to compensate for the loss of the very high-quality habitat represented by the coastal waters near DCP. The land protection also represents more of a potential future mitigation value rather than a high current value. However, as noted above, this aspect of PG&E’s conservation offer may be offset by the relatively short period of time the adverse effects would occur – anywhere from just a few years up to a maximum of about fifteen. Providing protection over 1,200 acres of upland and shoreline environment in exchange for allowing adverse effects on marine resource productivity equal to that produced from 300 to 1000 acres of reef habitat results in a mitigation ratio of between 1.2:1 (i.e., 1,200 acres for 1000 acres of reef habitat) and 4:1 (1,200 acres for 300 acres of reef habitat).

- The most recent entrainment study done elsewhere along the California coast was used to determine the entrainment impacts associated with about eight years of operations at the Huntington Beach Generating Station. Source water for that power plant comes from lesser quality habitat – primarily the sandy bottom nearshore waters in Santa Monica Bay – but the study determined that the entrainment caused by its cooling system at 253 million gallons per day caused an annual loss of production equivalent to about 104 acres of open coastal waters. The study concluded that it would be appropriate to mitigate that loss by restoring 104 acres of nearby coastal wetlands.

Applying the ratio used in this Huntington Beach study – i.e., the use of 253 million gallons per day requires mitigation in the form of 104 acres of wetlands – results in the SGRP needing about 1,000 acres of restored wetlands to compensate for its use of 2.5 billion gallons per day of seawater. The Diablo Canyon uplands are by no means as productive as restored tidal wetlands, so a somewhat larger area would be needed to address the lower productivity and the out-of-kind nature of this form of compensation.

The methods above suggest that compensation for the SGRP in the form of a largely upland conservation area should cover a substantial area. For the Diablo Canyon lands, however, the ongoing land use and development need to be factored in – since much of these lands do not represent pristine habitat, they therefore have less value when determining a mitigation ratio. For example, part of the land is used for coastal agriculture and cattle grazing, both of which are expected to continue for the foreseeable future. Some of the existing crop agriculture is done using pesticides, and although the grazing practices are done in what is considered a sustainable manner, they clearly result in habitat changes. Both sets of practices are also likely to result in some water quality problems. Additionally, there is limited public access in both the southern and northern portions of these lands, which reduces the overall habitat value and may cause some minor water quality problems. These aspects of the existing land management therefore lessen the ecological value of these areas as compensation for marine impacts and suggest that a higher mitigation ratio needs to be applied to reach an adequate level of compensation. However, another aspect of the proposed project to be considered is the operating life of the power plant. The SGRP represents about ten to fifteen years of additional once-through cooling operations, whereas the upland conservation area would be protected in perpetuity.

PG&E estimates that, based on internal appraisals, the 1,200 acre parcel it proposes to conserve is valued at a minimum of approximately \$15,000 per acre, for a total of at least \$18,000,000. See PG&E Letter to Commissioners, December 8, 2006. The Commission has not obtained an independent evaluation of PG&E's estimate and Commission staff does not believe that the value of the property is relevant to a determination of appropriate mitigation for this project.

4.4.2.5 Conclusion

Regarding marine mammals, as noted above, with imposition of **Special Condition 4**, the SGRP will be adequately protective of marine mammals and therefore conform to this aspect of the marine resource protections of Coastal Act Sections 30230 and 30231.

~~Regarding cooling system related impacts, results of the studies cited above show that the DCP cooling system causes significant adverse and largely unmitigated impacts to the local and regional marine environment. The proposed SGRP would result in similar impacts and would cause those impacts to continue for at least ten years beyond when they would otherwise end.~~

~~As noted above, there have been several efforts to determine what mitigation measures would be feasible to avoid or minimize the cooling system's impacts. None of the avoidance or minimization options is considered feasible, so approval of the SGRP would require continued use of the cooling system. As noted above, only avoidance of once through cooling effects would result in the proposed project's conformity to the provisions of Coastal Act Sections 30230 and 30231 requiring that marine resources be maintained, that biological productivity be sustained, and that the adverse effects of entrainment be minimized. Additionally, although some of the compensatory mitigation measures described above are feasible, none would provide the level of protection needed to "maintain, enhance, and where feasible, restore" those resources. Therefore, based on the studies cited and the information provided above, the Commission finds that the project as proposed does not conform to Coastal Act Sections 30230 and 30231 and to LCP Section 23.07.178. However, because DCP is considered a "coastal-dependent" industrial facility²⁰, the Commission may therefore evaluate the proposed SGRP under Coastal Act Section 30260, which allows such projects to be approved in some instances even when they are found to be inconsistent with other Coastal Act provisions. The analysis and findings related to Section 30260 are in Section 4.4.7 of this report, below.~~

Overall, the Commission finds that, based on one or more of the foregoing contentions, the SGRP, as proposed with the acceptance of PG&E's offer to protect 1,200 acres of its lands by the dedication of a conservation easement and subject to **Special Conditions 3(c) and 4**, complies with applicable Coastal Act and LCP requirements.

²⁰ DCP is considered "coastal dependent" pursuant to Coastal Act Section 30101, which defines a coastal dependent development or use as that which "requires a site on or adjacent to the sea to be able to function at all."

4.4.3 Environmentally Sensitive Habitat Areas

4.4.3.1 Applicable Coastal Act and LCP Provisions

Coastal Act Section 30240 states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

LCP Section 23.07.160 states:

The sensitive resource area combining designation is applied by the official maps (Part III) of the land use element to identify areas with special environmental qualities, or areas containing unique or endangered vegetation or habitat resources. The purpose of these combining designation standards is to require that proposed uses be designed with consideration of the identified sensitive resources, and the need for their protection, and, where applicable, to satisfy the requirements of the California Coastal Act. The requirements of this title for sensitive resource areas are organized into the following:

23.07.162 Applicability of standards;

23.07.164 SRA permit and processing requirements;

23.07.166 Minimum site design and development standards;

23.07.170 Environmentally sensitive habitats;

23.07.172 Wetlands;

23.07.174 Streams and riparian vegetation;

23.07.176 Terrestrial habitat protection;

23.07.178 Marine habitats.

LCP Section 23.07.162 states:

The standards of Sections 23.07.160 through 23.07.166 apply to all uses requiring a land use permit that are located within a sensitive resource area combining designation.

LCP Section 23.07.164 states:

The land use permit requirements established by Chapters 23.03 and 23.08, are modified for the SRA combining designation as follows:

(1) Initial Submittal. The type of land use permit application to be submitted is to be as required by Chapter 23.03 (permit requirements), Chapter 23.08 (special uses), or by planning area standards. That application will be used as the basis for an environmental determination as set forth in subsection (3) of this section, and depending on the result of

the environmental determination, the applicant may be required to amend the application to a development plan application as a condition of further processing of the request (see subsection (4) of this section).

(2) Application Content. Land use permit applications for projects within a sensitive resource area shall include a description of measures proposed to protect the resource identified by the land use element (Part II) area plan.

(3) Environmental Determination.

(A) When a land use permit application has been accepted for processing as set forth in Section 23.02.022, it shall be transmitted to the environmental coordinator for completion of an environmental determination pursuant to the California Environmental Quality Act (CEQA).

(B) The initial study of the environmental determination is to evaluate the potential effect of the proposed project upon the particular features of the site or vicinity that are identified by the land use element as the reason for the sensitive resource designation.

(C) Following transmittal of an application to the environmental coordinator, the planning department shall not further process the application until it is:

(i) Returned with a statement by the environmental coordinator that the project is exempt from the provisions of CEQA; or

(ii) Returned to the planning department accompanied by a duly issued and effective negative declaration which finds that the proposed project will create no significant effect upon the identified sensitive resource; or

(iii) Returned to the planning department accompanied by a final environmental impact report approved by the environmental coordinator.

(4) Final Permit Requirement and Processing.

(A) If an environmental determination results in the issuance of a proposed negative declaration, the land use permit requirement shall remain as established for the initial submittal;

(B) If an environmental impact report is required, the project shall be processed and authorized only through development plan approval.

(5) Required Findings. Any land use permit application within a sensitive resource area shall be approved only where the review authority can make the following required findings:

(A) The development will not create significant adverse effects on the natural features of the site or vicinity that were the basis for the sensitive resource area designation, and will preserve and protect such features through the site design;

(B) Natural features and topography have been considered in the design and siting of all proposed physical improvements;

(C) Any proposed clearing of topsoil, trees, or other features is the minimum necessary to achieve safe and convenient access and siting of proposed structures, and will not create significant adverse effects on the identified sensitive resource;

(D) The soil and subsoil conditions are suitable for any proposed excavation; site preparation and drainage improvements have been designed to prevent soil erosion, and sedimentation of streams through undue surface runoff.

LCP Section 23.07.166 states:

All uses within a sensitive resource area shall conform to the following standards:

(1) Surfacing mining is not permitted except in areas also included in an energy and extractive resource area combining designation by the land use element. Where the dual designation exists, surface mining is allowed only after approval of surface mining permit and reclamation plan, approved in accordance with Section 23.08.180.

(2) Shoreline areas shall not be altered by grading, paving, or other development of impervious surfaces for a distance of one hundred feet from the mean high tide line, seventy-five feet from any lakeshore, or fifty feet from any streambank, except where authorized through development plan approval. Where the requirements of the California Department of Fish and Game or other public agency having jurisdiction are different, the more restrictive regulations shall apply. Special requirements for setbacks from wetlands, streams, and the coastline are established by Sections 23.07.172 through 23.07.178.

(3) Construction and landscaping activities shall be conducted to not degrade lakes, ponds, wetlands, or perennial watercourses within an SRA through filling, sedimentation, erosion, increased turbidity, or other contamination.

(4) Where an SRA is applied because of prominent geological features visible from off-site (such as rock outcrops), those features are to be protected and remain undisturbed by grading or development activities.

(5) Where an SRA is applied because of specified species of trees, plants or other vegetation, such species shall not be disturbed by construction activities or subsequent operation of the use, except where authorized by development plan approval.

LCP Section 23.07.170 states:

The provisions of this section apply to development proposed within or adjacent to (within one hundred feet of the boundary of) an environmentally sensitive habitat as defined by Chapter 23.11 of this title, and as mapped by the land use element combining designation maps.

(1) Application Content. A land use permit application for a project on a site located within or adjacent to an environmentally sensitive habitat shall also include a report by a biologist approved by the environmental coordinator that:

(A) Evaluates the impact the development may have on the habitat, and whether the development will be consistent with the biological continuance of the habitat. The report shall identify the maximum feasible mitigation measures to protect the resource and a program for monitoring and evaluating the effectiveness of the mitigation measures;

(B) Recommends conditions of approval for the restoration of damaged habitats, where feasible;

(C) Evaluates development proposed adjacent to environmentally sensitive habitats to identify significant negative impacts from noise, sediment and other potential disturbances that may become evident during project review;

- (D) Verifies that applicable setbacks from the habitat area required by Sections 23.07.170 to 23.07.178 are adequate to protect the habitat or recommends greater, more appropriate setbacks.*
- (2) Required Findings. Approval of a land use permit for a project within or adjacent to an environmentally sensitive habitat shall not occur unless the applicable review body first finds that:*
 - (A) There will be no significant negative impact on the identified sensitive habitat and the proposed use will be consistent with the biological continuance of the habitat;*
 - (B) The proposed use will not significantly disrupt the habitat.*
- (3) Land Divisions. No division of a parcel containing an environmentally sensitive habitat shall be permitted unless all proposed building sites are located entirely outside of the applicable minimum setback required by Sections 23.07.172 through 23.07.178. Such building sites shall be designated on the recorded subdivision map.*
- (4) Development Standards for Environmentally Sensitive Habitats.*
 - (A) New development within or adjacent to the habitat shall not significantly disrupt the resource.*
 - (B) New development within the habitat shall be limited to those uses that are dependent upon the resource.*
 - (C) Where feasible, damaged habitats shall be restored as condition of development approval.*
 - (D) Development shall be consistent with the biological continuance of the habitat.*
 - (E) Grading adjacent to environmentally sensitive habitats shall conform the provisions of Section 23.05.034 (3).*

LCP Section 23.07.174 states:

Coastal streams and adjacent riparian areas are environmentally sensitive habitats. The provisions of this section are intended to preserve and protect the natural hydrological system and ecological functions of coastal streams.

- (1) Development Adjacent to a Coastal Stream. Development adjacent to a coastal stream shall be sited and designed to protect the habitat and shall be compatible with the continuance of such habitat.*
- (2) Limitation on Streambed Alteration. Channelization, dams or other substantial alteration of stream channels are limited to:*
 - (A) Water supply projects; provided, that quantity and quality of water from streams shall be maintained at levels necessary to sustain functional capacity of streams, wetlands, estuaries and lakes;*
 - (B) Flood control projects, where such protection is necessary for public safety or to protect existing commercial or residential structures, when no feasible alternative to streambed alteration is available;*
 - (C) Construction of improvements to fish and wild life habitat;*
 - (D) Maintenance of existing flood control channels. Streambed alterations shall not be conducted unless all applicable provisions of this title are met and if applicable, permit approval from the California Department of Fish and Game, the U.S. Army Corps of Engineers, and State Water Resources Control Board.*

(3) *Stream Diversion Structures.* Structures that divert all or a portion of streamflow for any purpose, except for agricultural stock ponds with a capacity less than ten acre-feet, shall be designed and located to not impede the movement of native fish or to reduce streamflow to a level that would significantly affect the production of fish and other stream organisms.

(1) *Riparian Setbacks.* New development shall be setback from the upland edge of riparian vegetation a minimum of fifty feet within urban areas (inside the USL) and one hundred feet in rural areas (outside the USL), except as provided in subsection (2) of this section, and as follows:

(A) *Permitted Uses Within the Setback.* Permitted uses are limited to those specified in Section 23.07.172 (4)(A) (for wetland setbacks); provided, that the findings required by that section can be made. Additional permitted uses that are not required to satisfy those findings include pedestrian and equestrian trails, and nonstructural agricultural uses.

(B) *Riparian Habitat Setback Adjustment.* The minimum riparian setback may be adjusted through minor use permit approval, but in no case shall structures be allowed closer than ten feet from a stream bank, and provided the following findings can first be made:

Alternative locations and routes are infeasible or more environmentally damaging; and

*Adverse environmental effects are mitigated to maximum extent feasible; and
The adjustment is necessary to allow a principal permitted use of the property and redesign of the proposed development would not allow the use with the standard setbacks; and*

The adjustment is the minimum that would allow for the establishment of a principal permitted use.

(5) *Alteration of Riparian Vegetation.* Cutting or alteration of natural vegetation that protects a riparian habitat shall not be permitted except:

(A) *For streambed alterations allowed by subsections (1) and (2) above;*

(B) *Where no feasible alternative exists;*

(C) *Where an issue of public safety exists;*

(D) *Where expanding vegetation is encroaching on established agricultural uses;*

(E) *Minor public works projects, including but not limited to utility lines, pipelines, driveways and roads, where the planning director determines no feasible alternative exists;*

(F) *To increase agricultural acreage; provided, that such vegetation clearance will:*

(i) Not impair the functional capacity of the habitat,

(ii) Not cause significant streambank erosion,

(iii) Not have a detrimental effect on water quality or quantity,

(iv) Be in accordance with applicable permits required by the Department of Fish and Game;

(G) *To locate a principally permitted use on an existing lot of record where no feasible alternative exists and the findings of subsection (2) of this section can be made.*

4.4.3.2 Background and Project Description

The approximately 12,791 acres of PG&E's Diablo Canyon lands include portions of the Irish Hills, about twelve miles of coastline, and a diverse mix of upland, riparian, and shoreline habitats. Of these lands, about 200 are in crop production, about 2,500 are used for grazing, and about 772 are part of the DCPD complex, with much of the remainder consisting largely of native habitat. Those habitat types include coastal scrub, chaparral, grassland, oak woodland, pine forest, riparian, freshwater marsh, and marine shoreline. The County LCP classifies most of these lands as Sensitive Resource Area (SRA), which is generally equivalent to the Coastal Act's Environmentally Sensitive Habitat Area (ESHA) designation.

The proposed project would occur in two main areas within these Diablo Canyon lands. First, the construction associated with the proposed steam generator replacements would take place within the DCPD complex. Most of this area was disturbed during original construction of the power plant, although some areas within this high-security zone provide habitat, including areas of coastal scrub and riparian vegetation along the lower reaches of Diablo Creek. PG&E withdraws water from Diablo Creek for domestic use within the DCPD complex. Additionally, the access enhancements offered by PG&E as part of the proposed project (more fully described above in Section 4.4 – Public Access) would be implemented at the south end of the Diablo Canyon lands, primarily on or along the Pecho Coast Trail. The trail area is noted for its high-quality habitat and the trail itself passes through or along several of the sensitive habitat types listed above.

Diablo Creek has a watershed of approximately 5 square miles. The creek flows within the DCPD complex and enters the ocean near the power plant. The creek is partially culverted within the DCPD complex, but supports a variety of vegetation and habitat features where it remains above ground. The creek is a seasonal waterbody with highly variable flows, with peak flows caused primarily by rain and storm events. During the dry season, it can dry up completely, although some of the nearby vegetation continues to be supported by groundwater flows near the creek channel.

Despite the heavy alteration of the DCPD site, the creek supports areas of hydrophytic vegetation such as cattail (*Typha sp.*) and umbrella sedge (*Cyperus sp.*), rabbit's foot grass (*Polypogon monspeliensis*), quailbush (*Atriplex lentiformis*) and poison hemlock (*Conium maculatum*). Some of the riparian area is densely vegetated with arroyo willow (*Salix lasiolepis*), giant creek nettle (*Urtica dioica var. holosericea*), California figwort (*Scrophularia californica*), wild cucumber (*Marah fabaceous*), giant horsetail (*Equisetum telmateia*), and hedge nettle (*Stachys bullata*). Species that either present or potential present along the creek include small mammals, including several species of rodent, various reptiles and amphibians, including snakes, lizards, and toads, and several bird species. Steelhead (*Oncorhynchus mykiss*) were historically present in Diablo Creek, though no federal- or state-listed sensitive species are known to currently use the creek habitat within the high-security area.

4.4.3.3. Effects of the Proposed Project on ESHA

The proposed project's construction-related activities will occur on previously disturbed areas within the DCPD complex and are not expected to directly affect sensitive habitat areas. However, the proposed project involves at least two types of development that are expected to cause disturbances to ESHA – the public access enhancements included by PG&E as part of the proposed project, and the continued use by DCPD of water withdrawn from Diablo Creek. These are each discussed separately in Section 4.4.3.4 below.

4.4.3.4 Analysis of Conformity to Applicable LCP Provisions

LCP Section 23.07.160 establishes the habitat types that are designated Sensitive Habitat Areas (SRAs) in the LCP. These SRAs include wetlands, streams, and riparian areas, and are similar to the Coastal Act's environmentally sensitive habitat areas (ESHAs). LCP Section 23.07.170 applies to development proposed within or adjacent to areas of sensitive habitat (the LCP defines "adjacent" as within one hundred feet). LCP Section 23.07.170(1) requires that the permit application for such development evaluate the habitat features and whether the development will be consistent with biological continuance of the habitat, identify maximum feasible measures to protect the habitat, and identify the monitoring necessary to evaluate the mitigation measures. It also requires recommended conditions to restore damaged habitat, where feasible, and identification of significant negative impacts from noise, sediment or other potential disturbances. LCP Section 23.07.170(2) requires that findings for such a project determine that there will be no significant negative impact on the sensitive habitat, that the proposed use will be consistent with biological continuance of the habitat, and that the proposed use will not significantly disrupt the habitat. LCP Section 23.07.170(4) requires as a condition of approval that development within or adjacent to sensitive habitat include measures to ensure damaged habitats are restored. It also makes development subject, at a minimum, to setbacks identified in Sections 23.07.170-178. LCP Section 23.06.174 describes requirements applying to coastal streams and their adjacent riparian areas. Provisions of this section are meant to preserve and protect natural hydrological and ecological functions of those streams.

Sensitive Habitat Issues Related to Required Public Access: PG&E has included with the proposed project several access enhancements near the existing Pecho Coast Trail, with several that have the potential to adversely affect nearby sensitive habitat areas. These enhancements are more fully described in Section 4.4.1 – Public Access and include road improvements, relocation of a security gate or trail and road entrance, and a ~~deed restriction or conservation easement offer~~. At least one of these enhancements – improving road drainage – is expected to improve habitat conditions. These access enhancements are subject to **Special Condition 3** to ensure they conform to Coastal Act and LCP public access provisions. **Special Condition 3** also includes a requirement to ensure the enhancements are protective of sensitive habitat areas. It requires PG&E to submit plans showing that the enhancements will avoid or minimize impacts pursuant to the requirements of LCP Sections 23.07.164 and 23.07.166 and that they will be implemented using Best Management Practices. With the imposition of **Special Condition 3**, these aspects of the proposed project will conform to the above-referenced Coastal Act and LCP provisions related to habitat protection.

Sensitive Habitat Issues Related to Water Withdrawals From Diablo Creek: As noted above, PG&E withdraws water from Diablo Creek for domestic use within the DCPD complex. In 1968, PG&E received a water right allowing it to withdraw up to 34 acre-feet per year from three diversion points along the creek for dust control during project construction. By 1974, the water was being used for construction purposes and for domestic uses.

PG&E also has a desalination facility at DCPD that provides part of its water supply for both domestic uses and to produce the ultra-pure water needed for the high-pressure steam used to generate electricity at DCPD. The facility's capacity is about 576,000 gallons per day, or just over 600 acre-feet per year. The source water for this facility is the up to 2.6 billion gallons per day of seawater drawn through DCPD's cooling water system.

As noted above, Diablo Creek is a seasonal stream with a relatively small watershed, and its surface water disappears entirely during parts of the year. PG&E's withdrawal of up to 34 acre-feet per year at times therefore represents a significant impact to the habitat associated with the creek. The SGRP would continue at least part of these withdrawals for about ten years beyond when they would be reduced if the project did not go forward.

This impact can be easily avoided by replacing the water withdrawn from the creek with water produced at DCPD's desalination facility. The maximum 34 acre-feet of water withdrawn from the creek each year represents about 5% of the facility's capacity. During years when PG&E withdraws less than 34 acre-feet, it would represent even less. Most of this amount may be available through conservation rather than additional desalination operation, but because the desalination facility uses only a small fraction of the seawater used in the cooling system, it could increase its operations to produce this amount without resulting in additional adverse entrainment or discharge impacts associated with the cooling system.

Replacing these withdrawals would also allow conformity to provisions of Coastal Act Section 30240 and LCP Section 23.07.174 requiring that development be designed to protect ESHA and to allow continuance of ESHA. It would also provide a feasible mitigation measure to protect the resource as required by LCP Section 23.07.170. Stopping the withdrawals would provide additional water to support the existing riparian habitat and would also enhance the eventual restoration of the creek by providing for this additional habitat support during the years leading up to site restoration. **Special Condition 5** therefore requires PG&E to stop its withdrawals from Diablo Creek for domestic use no later than the start of commercial operation of the replacement steam generators. The Executive Director may extend the deadline for stopping withdrawals for good cause.

4.4.3.5 Conclusion

Based on the above, and as conditioned, the Commission finds that the proposed project, as conditioned, conforms to the above-referenced Coastal Act and LCP policies for protection of ESHA and sensitive habitat.

4.4.4 Water Quality Protection and Spill Prevention & Response

4.4.4.1 Applicable Coastal Act and LCP Provisions

Coastal Act Section 30232 states:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

Section 23.05.040 states:

Standards for the control of drainage and drainage facilities provide for designing projects to minimize harmful effects of storm water runoff and resulting inundation and erosion on proposed projects, and to protect neighboring and downstream properties from drainage problems resulting from new development. The standards of Sections 23.05.042 through 23.05.050 are applicable to projects and activities required to have land use permit approval.

Section 23.05.042 states:

No land use or construction permit (as applicable) shall be issued for a project where a drainage plan is required, unless a drainage plan is first approved pursuant to Section 23.05.046. Drainage plans shall be submitted with or be made part of any land use, building or grading permit application for a project that:

- (1) Involves a land disturbance (grading, or removal of vegetation down to duff or bare soil, by any method) of more than forty thousand square feet; or*
- (2) Will result in an impervious surface of more than twenty thousand square feet; or*
- (3) Is subject to local ponding due to soil conditions and lack of identified drainage channels; or*
- (4) Is located in an area identified by the county engineer as having a history of flooding or erosion that may be further aggravated by or have a harmful effect on the project; or*
- (5) Is located within a flood hazard (FH) combining designation; or*
- (6) Involves land disturbance or placement of structures within fifty feet of any watercourse shown on the most current USGS seven and a half minute quadrangle map; or*
- (7) Involves hillside development on slopes steeper than ten percent; or*
- (8) May, by altering existing drainage, cause an on-site erosion or inundation hazard, or change the off-site drainage pattern, including but not limited to any change in the direction, velocity or volume of flow, or*
- (9) Involves development on a site adjacent to any coastal bluff.*

Section 23.05.044 states:

Drainage plans shall be neatly and accurately drawn, at an appropriate scale that will enable ready identification and recognition of submitted information. The County Engineer may require drainage plans to be prepared by a registered civil engineer.

(a) Basic drainage plan contents: Except where an engineered drainage plan is required, a drainage plan is to include the following information about the site:

- (1) Flow lines of surface waters onto and off the site.*
- (2) Existing and finished contours at two-foot intervals or other topographic information approved by the County Engineer.*
- (3) Building pad, finished floor and street elevations, existing and proposed.*
- (4) Existing and proposed drainage channels including drainage swales, ditches and berms.*
- (5) Location and design of any proposed facilities for storage or for conveyance of runoff into indicated drainage channels, including sumps, basins, channels, culverts, ponds, storm drains, and drop inlets.*
- (6) Estimates of existing and increased runoff resulting from the proposed improvements.*
- (7) Proposed erosion and sedimentation control measures.*
- (8) Proposed flood-proofing measures where determined to be necessary by the County Engineer.*

(b) Engineered plan content: Engineered drainage plans are to include an evaluation of the effects of projected runoff on adjacent properties and existing drainage facilities and systems in addition to the information required by subsection a of this section.

Section 23.06.120 states:

The storage and use of poisonous, corrosive, explosive and other materials hazardous to life or property are subject to the following standards, where applicable. The standards of these sections are in addition to all applicable state and federal standards, including but not limited to any regulations administered by the county health department, fire department, sheriff's office, agricultural commissioner and air pollution control district. In the event any standards of this chapter conflict with regulations administered by other federal, state, or county agencies, the most restrictive standards apply.

4.4.4.2 Background and Existing Site Characteristics

The SGRP will take place on already paved and developed portions of the DCPD site, which includes the lower reaches of Diablo Creek and which is adjacent to the Pacific Ocean. Contaminated runoff or spills could readily reach these waterbodies and cause adverse effects. As stated previously, Diablo Creek is a seasonal waterbody with highly variable flows, with peak flows caused primarily by rain and storm events. Parts of the creek were culverted and filled during DCPD's initial construction to construct a switchyard and other components of the DCPD complex. Runoff from much of the DCPD complex does not enter Diablo Creek or the ocean directly, but is captured as sheet flow through stormwater treatment and conveyance facilities.

The DCPD complex is currently subject to permitting and oversight by the Central Coast Regional Water Quality Board under provisions of several permits, including a National Pollutant Discharge Elimination System (NPDES) permit for the DCPD operations and a Stormwater Discharge Permit. Those permits require Best Management Practices be used to avoid and minimize adverse effects to nearby waterbodies.

4.4.4.3 Analysis of Conformity to Applicable Coastal Act and LCP Provisions

Water Quality Protection: Several LCP provisions address issues related to water quality and the prevention and response to spills of hazardous materials. The LCP requires PG&E to submit a Drainage Plan prior to issuance of the County's construction permits. LCP Section 23.05.040 establishes drainage control standards to minimize the harmful effects of stormwater runoff, inundation, and erosion on proposed projects as well as existing neighboring and downstream properties. LCP Section 23.05.042 defines when a Drainage Plan is necessary, and requires that land use permits not be issued until a project's Drainage Plan is approved. The Drainage Plan is required for projects that involve any of the following:

- Disturb more than 40,000 square feet of land;
- Create impervious surfaces of more than 20,000 square feet;
- Are in an area subject to flooding, ponding, or erosion that could be worsened by the project;
- Are within a County-designated Flood Hazard area;
- Would disturb land within fifty feet of a watercourse;
- Includes development on slopes of greater than ten percent;
- May cause an on-site erosion or inundation hazard by altering existing drainage;
- May change the off-site drainage direction, velocity, or flow volume; or
- Includes development on a site adjacent to a coastal bluff.

LCP Section 23.05.044 states that when Drainage Plans are required, they must include estimates of existing and anticipated runoff from the project site, and must evaluate the effects of projected runoff on adjacent properties and on existing drainage facilities. The plan must also describe existing surface flows, existing and finished site contours, and the location of final project elements, including drainage channels and any storage or conveyance facilities for runoff. Finally, LCP Section 23.06.120 requires that the storage and use of poisonous, corrosive, explosive and other materials hazardous to life or property be subject to applicable state and federal standards.

Many of the mitigation measures to be included in the Drainage Plan have been specified in the project's EIR. The SGRP will additionally be subject to a stormwater permit issued by the Regional Board that will further specify necessary Best Management Practices, water quality control measures, and spill prevention and response measures. To ensure project activities are implemented in a manner protective of water quality and associated coastal resources, **Special Condition 1** requires PG&E to submit to the Executive Director prior to project construction the County's approved construction permits and the Regional Board's stormwater permit.

Spill Prevention and Response: Coastal Act Section 30232 requires an applicant to undertake measures to prevent an oil spill from occurring, and requires effective containment and cleanup measures should a spill occur.

The SGRP steam generators are to be delivered by barge to the Diablo Intake Cove, which is a part of the coastal waters near DCPD that support a wide variety of sensitive marine biological resources. This delivery method involves the risk of spills of fuel or other hazardous materials from the barges and support vessels into coastal waters; however, there are standard measures available to avoid or reduce the risks of such spills.

Special Condition 6 would require PG&E to submit documentation to the Executive Director that the vessels used in the steam generator deliveries are subject to a spill prevention and response plan that meets applicable requirements for such plans established by the California Department of Fish and Game Office of Spill Prevention and Response. The plan is to describe the shoreline and marine resources at risk in the project area and is to identify specific equipment, training, and procedures that would be implemented during the steam generator deliveries to both prevent and respond to spills. It is to also identify primary spill responders in the area, nearby equipment available, and response times for those responders. It is also to include a vessel refueling plan to minimize the potential for fuel spills at sea. The plan is to also specify how PG&E will provide information about vessel locations and work schedules to the U.S. Coast Guard for inclusion in a Notice to Mariners so other vessels operating in the area will be able to avoid the project area during the deliveries.

4.4.4.4 Conclusion

Based on the above, the Commission finds that the project, as conditioned, will protect water quality and against spillage of oil and other hazardous substances and will be consistent with Coastal Act Section 30232 and the applicable provisions of the LCP.

4.4.5 Geologic Hazards

4.4.5.1 Applicable Coastal Act and LCP Provisions

Coastal Act Section 30253 states, in relevant part:

New development shall:

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs...*

LCP Section 23.07.984 states:

All land use permit applications for projects located within a geologic study area (except those exempted by Section 23.07.082) shall be accompanied by a report prepared by a certified engineering geologist and/or registered civil engineer (as to soils engineering), as appropriate. The report shall identify, describe and illustrate, where applicable, potential hazard of surface fault rupture, seismic shaking, liquefaction or landslide, as provided by this section. Provided, however, that no report is required for an application located in an area for which the county engineer determines that sufficient information exists because of previous geology or soils reports. Where required, a geology report shall include:

- (1) A review of the local and regional seismic and other geological conditions that may significantly affect the proposed use;*
- (2) An assessment of conditions on or near the site that would contribute to the potential for the damage of a proposed use from a seismic or other geological event, or the potential for a new use to create adverse effects upon existing uses because of identified geologic hazards. The conditions assessed are to include, where applicable, rainfall, soils, slopes, water table, bedrock geology, and any other substrate conditions that may affect seismic response, landslide risk or liquefaction potential;*
- (3) Conclusions and recommendations regarding the potential for, where applicable:
(A) Surface rupture or other secondary ground effects of seismic activity at the site,
(B) Active landsliding or slope failure,
(C) Adverse groundwater conditions,
(D) Liquefaction hazards;*
- (4) Recommended building techniques, site preparation measures, or setbacks necessary to reduce risks to life and property from seismic damage, landslide, groundwater and liquefaction to insignificant levels.*

LCP Section 23.07.086 states:

All uses within a geologic study area are to be established and maintained in accordance with the following, as applicable:

- (2) Grading. Any grading not otherwise exempted from the permit requirements of Sections 23.05.020 et seq. is to be performed as engineered grading under the provisions of those sections.*
- (3) Seismic Hazard Areas. As required by California Public Resources Code Section 2621, et seq. and California Administrative Code Title 14, Sections 3600, et seq. no structure intended for human occupancy shall be located within fifty feet of an active fault trace within an earthquake fault zone.*

- (4) *Erosion and Geologic Stability. New development shall insure structural stability while not creating or contributing to erosion, sedimentation or geologic instability.*

4.4.5.2 Background and Existing Conditions

The DCPD is located in an area subject to seismic activity along the boundary between the Pacific and North America plates. There are several active faults within a few dozen miles of the DCPD site²¹, and the site may be subject to seismic ground shaking, landslides, tsunamis, and other geologic hazards. The site does not lie within an Alquist-Priolo Earthquake Fault Zone, and there are no known active fault traces within 50 feet of any structure for human habitation. The area has not been mapped by the California Geological Survey to assess liquefaction and earthquake-induced landslide susceptibility under the Seismic Hazard Mapping Act; however, PG&E provided documents to address these and other potential hazards as part of the Commission's review and approval two years ago of PG&E's Independent Spent Fuel Storage Installation (ISFSI) project (in the Commission's Final Adopted Findings for A-3-SLO-04-035, January 8, 2005).

PG&E has prepared a number of geologic and seismic reports over the past several decades for various aspects of DCPD siting and operations, several of which are described in the project's EIR, and many of which served as part of the basis for the Commission's ISFSI approval. The DCPD is subject to ongoing safety review through a Long Term Seismic Program established by the NRC as a condition of DCPD's Unit 2 operating license²².

4.4.5.3 Conformity to Coastal Act and LCP Provisions

All aspects of the SGRP's staging, construction, and operations within the coastal zone would occur in areas that have been subject to the substantial and ongoing geologic studies noted above²³. These activities are either within the exclusive purview of the NRC or fall within the allowable parameters described in the Commission's ISFSI findings related to minimizing risks associated with geologic hazards. A portion of the proposed project – the delivery and initial transport of the new steam generators – would occur along the DCPD shoreline. However, these activities will not require shoreline alteration, and any associated risk of geologic hazard is

²¹ These include the San Andreas Fault (about 45 miles from DCPD), the Rinconada-East Huasna Fault (about 20 miles away), the Oceanic-West Huasna Fault (about 14 miles away), the Los Osos Fault Zone (about 8 miles away), and the San Simeon-Hosgri Fault Zone (about 3 miles away). All of these faults have been mapped as "active" (showing movement in the last 10,000 years) by the California Geological Survey.

²² It should be noted that the Commission is statutorily proscribed due to federal pre-emption from applying Coastal Act or LCP provisions to issues related to nuclear or radiation safety, as these issues are under the exclusive jurisdiction of the NRC. Nevertheless, proposed development must assure geologic stability in order to conform to the Coastal Act and LCP.

²³ As noted previously, the storage site and building for the existing generators are outside the coastal zone and are therefore not subject to Coastal Act or LCP provisions and are not evaluated in these Findings.

minimal, primarily because the delivery and transport will occur over two short periods of a few days about a year apart.

4.4.5.4 Conclusion

For the reasons described above, the Commission finds that the proposed project will result in minimal risks due to geologic hazards and that it conforms to the above-referenced Coastal Act and LCP provisions policies regarding geologic hazards and stability.

4.4.6 Visual Resources

4.4.6.1 Applicable Coastal Act and LCP Provisions

Coastal Act Section 30251 states:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

LCP Policy 10-1 states:

Unique and attractive features of the landscape, including but not limited to unusual landforms, scenic vistas and sensitive habitats are to be preserved, protected, and in visually degraded areas restored where feasible.

LCP Policy 10-2 states:

Permitted development shall be sited so as to protect views to and along the ocean and scenic coastal areas. Wherever possible, site selection for new development is to emphasize locations not visible from major public view corridors. In particular, new development should utilize slope created "pockets" to shield development and minimize visual intrusion.

LCP Policy 10-5 states:

Grading, earthmoving, major vegetation removal and other landform alternations within public view corridors are to be minimized. Where feasible, contours of the finished surface are to blend with adjacent natural terrain to achieve consistent grade and natural appearance.

4.4.6.2 Analysis of conformity to LCP provisions

The Coastal Act and LCP provisions related to scenic and visual resources generally require that unique landscape features, including sensitive habitats, are to be preserved, protected, and in visually degraded areas, restored where feasible, that permitted development protect views to and along the ocean, and that where possible, new development not be visible from major public view corridors, and that grading, earthmoving, major vegetation removal and other landform alternations within public view corridors be minimized.

The proposed SGRP will be located within the DCPD industrial complex. This area is surrounded by a larger area of relatively undisturbed open space that offers significant biological and visual resources along several miles of coastline. The EIR indicated that the coastal area around the DCPD complex is of high visual quality but that the immediate project site is considered to have low to moderate visual quality due to its existing use as an industrial site.

The primary visual changes that would occur due to the SGRP consist of temporary placement of buildings for approximately two years along with temporary construction-related activities associated with shipping new generators to the site and moving the existing generators to another location within the DCPD complex. The temporary buildings are visually compatible with other existing structures at the site and the construction activities are visually subservient to other site development, so neither type of development is likely to result in substantial visual changes. During the SGRP, the nearest public view of the DCPD will be over a mile away. This view, from the southernmost overlook of the Diablo North Ranch Trail (currently being developed pursuant to the CDP the Commission issued for PG&E's ISFSI Project), will provide only a partial view of the DCPD complex and elements of the SGRP will not be visible from this location.

Additionally, although the SGRP would result in several additional years of power plant operations, there would likely be no substantial visual changes at the site during that period compared to the proposed project not going forward. Even if DCPD were to shut down in 2014, PG&E would likely not start substantial on-site decommissioning activities until near the end of the existing operating license periods because of the intensive reviews and approvals needed to start plant decommissioning.

4.4.6.3 Conclusion

For the reasons described above, the Commission finds that the proposed project will not result in substantial visual effects and that that it conforms to the above-referenced Coastal Act and LCP provisions policies regarding visual resources.

4.4.7 Coastal-dependent Industrial Development

Coastal Act Section 30101 states:

"Coastal-dependent development or use" means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.

Coastal Act Section 30260 states:

Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

Coastal Act Section 30260 provides that coastal-dependent facilities should be encouraged to locate or expand within existing sites and provides for special consideration of coastal-dependent industrial facilities that may otherwise be found inconsistent with the Coastal Act's Chapter 3 policies. Such coastal-dependent proposals must be evaluated under all applicable policies and standards contained in Chapter 3. If a proposal is found to be inconsistent with any Chapter 3 policy, Section 30260 provides for its approval, notwithstanding its inconsistencies with those other policies.

The proposed SGRP would occur at an existing coastal-dependent industrial facility. While nuclear power plants in general are not necessarily coastal-dependent, DCP's reliance on billions of gallons a day of seawater requires that it be sited on or adjacent to the sea in order to function at all, and it is therefore coastal-dependent.

Additionally, as determined previously in these findings, the Commission has found that the proposed SGRP is consistent with all applicable Coastal Act and LCP requirements. ~~inconsistent with Coastal Act policies related to marine biological resources and water quality (Sections 30230 and 30231). Because DCP is a coastal dependent industrial facility, the Commission may apply Section 30260 to "override" those inconsistencies and nonetheless approve the project if the three tests of Section 30260 can be met: first, that alternative locations are infeasible or more environmentally damaging; next, that to do otherwise would adversely affect the public welfare; and third, that adverse environmental effects are mitigated to the maximum extent feasible.~~

- ~~**Test 1—Alternative Locations are Infeasible or More Environmentally Damaging:** Section 30260's first test requires an assessment of alternative locations. Since the SGRP represents development that would occur at an existing facility rather than a new facility, the primary consideration for this test is whether there are alternative feasible onsite locations or methods that would be less environmentally damaging. As noted above in Section 4.2.2—Marine~~

Biology, there are no feasible locations or methods to provide the necessary cooling at DCPP. The Commission therefore finds that the proposed project meets the first test of Section 30260.

- **Test 2—To not permit the development would adversely affect public welfare:** Section 30260's second test provides that coastal dependent industrial development may be permitted if to do otherwise would adversely affect the public welfare. Determining the public welfare considerations of nuclear energy requires evaluating a number of benefits and concerns. On the one hand, DCPP produces about 20% of the electricity used within PG&E's Northern California service area. It is therefore an important component of the state's energy grid and economy. The PUC's review noted that replacing the electricity produced at DCPP with new conventional gas fired power plants would cost more than twice as much as this SGRP, which would result in increased rates for energy consumers. A shift to gas fired plants would also detract from the state's interest in reducing greenhouse gas emissions, since natural gas is a relatively higher contributor to those emissions than nuclear energy. On the other hand, nuclear power is considered a highly dangerous form of energy production due to its generation of nuclear waste and its potential for low probability but high risk catastrophic accidents or releases of nuclear material. The SGRP would result in continued generation of nuclear waste and a continuation of low probability, high consequence risk on California's people and environment. Although the Commission is pre-empted by federal law from imposing conditions related to radiological safety and security issues, it is able to consider these issues as part of its public welfare considerations—that is, even though DCPP's safety and security requirements are largely under the purview of the federal Nuclear Regulatory Commission, Section 30260's public welfare test allows the Coastal Commission to broadly consider aspects of public safety and security, environmental health, and social well being that are dependent on DCPP's continued safe and secure operations.

With regards to the nuclear waste issue, the Commission two years ago approved PG&E's ISFSI project, which allows for the on-site secure storage of all the spent nuclear fuel that DCPP is expected to produce until 2025. The proposed project will therefore not create new storage problems. With regards to the project's effects on safety and security, DCPP is subject to ongoing testing, inspection, and security assessments by the NRC. DCPP's operations are also subject to review and inspection by the Diablo Canyon Independent Safety Committee, established in 1988 pursuant to a settlement agreement between PG&E and the PUC. The Committee's most recent annual report states that DCPP overall operated in a manner that preserved public health and safety. DCPP may also be subject to additional security scrutiny pending possible legal review that would require PG&E to consider the risk of terrorist attack on DCPP²⁴.

²⁴-In 2005, the Mothers For Peace filed suit to require the NRC to include in its National Environmental Policy Act review an evaluation of the risk of terrorist attack and its consequences on nuclear safety. The NRC had previously dismissed the risk as being too remote and highly speculative. In 2006, the Ninth Circuit Court of Appeals found that the NRC acted unreasonably in its categorical dismissal of the risk (see *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006)). PG&E has since filed a writ of certiorari with the U.S. Supreme Court asking that the decision be overturned; the Supreme Court has not yet accepted the writ for review.

~~Additionally, any proposal to operate DCPD beyond 2025 would require a new and more exhaustive review of the facility's operating systems and their suitability for operating beyond the facility's expected operating life. PG&E is currently conducting a feasibility study to determine whether it should request a new or extended operating license. If the study suggests that DCPD's continuing operation is feasible, any subsequent license would provide a renewed opportunity to address public welfare considerations along with the other issues mentioned above. Further, the period between now and 2025 provides an opportunity for California to more comprehensively consider the role of DCPD in the state's energy portfolio and to determine whether other forms of energy production might be available to replace or supplant DCPD's contribution.~~

~~Based on the above, the Commission therefore finds that not permitting the proposed project would adversely affect the public welfare, and that the SGRP therefore meets the second test of Section 30260.~~

- ~~**Test 3—Adverse environmental effects are minimized to the maximum extent feasible:** Section 30260's third test requires consideration of the maximum feasible mitigation measures to address project impacts. As described in Section 4.4.2—Marine Biology above, the proposed project does not conform to Coastal Act Sections 30230 and 30231 and there are no feasible mitigation options that would completely avoid or minimize the impacts caused by DCPD's once-through cooling system. Alternative cooling methods and alternative locations for the cooling system intake and outfall have been identified as being too costly, too dependent on unavailable resources such as fresh water, or resulting in just moving most of the adverse impacts to another location. Similarly, because DCPD provides a baseload energy supply that requires the facility and its cooling water pumps to run at or near capacity most of the time, there appear to be no options such as installing variable speed pumps that would substantially minimize the cooling system's impacts.~~

~~Section 4.4.2 of this report described several compensatory mitigation options that were considered as part of the Regional Board's review. These have largely not been adopted due to infeasibility, due to the lack of a nexus between the cooling system impacts and the mitigation benefits, or because the options need substantial further study before their value or appropriateness as mitigation can be determined. The Board is also waiting to determine how the Coastal Commission will address the SGRP's cooling system impacts and how the federal court decision expected in the next several months will determine which mitigation options the Board will have available to ensure conformity under the Clean Water Act.~~

~~Of the compensatory mitigation options considered, the primary remaining feasible option of the scale needed to address the SGRP's cooling water impacts is a conservation easement over the nearby Diablo Canyon lands. While an easement would provide mostly out-of-kind and offsite mitigation in the form of upland habitat protection, it would also provide some direct benefits to the marine environment through both avoidance and minimization of adverse water quality effects that could be caused by increased coastal development within the protected area. A conservation easement would protect nearshore and intertidal habitats from potential future degradation that would accompany the types of development that could~~

occur in the Diablo Canyon lands. PG&E's recent submittal of its resources survey covering part of the northern Diablo Canyon lands identified significant habitat values along the northernmost three miles of shoreline, including relatively pristine rocky shoreline habitat, kelp beds, and other high quality habitat. That study also identified substantial habitat values in parts of approximately 2000 acres of adjacent uplands. Previously, PG&E identified similar exceptional habitat values in its survey of the area surrounding the Pecho Coast Trail at the south end of the Diablo Canyon lands.

Many of the species entrained at DCPD either use or originate in these nearshore and intertidal areas, so by maintaining the existing conditions of these areas, the conservation easement could ensure continued production of individuals beyond those entrained. To provide maximum feasible mitigation, the easement would need to extend both up and downcoast of the cooling system intake in recognition of the source water affected by the system. Further, these Diablo Canyon lands are within coastal watersheds, so any benefits of development limits in the uplands adjacent to the coast would accrue in the nearby coastal waters affected by DCPD.

Protecting these lands from development other than the types of development currently existing or required on these lands (i.e., development associated with habitat protection, open space, public access, existing agricultural uses, and DCPD security) would benefit marine resources and coastal water quality; however, many of these benefits would not be fully realized for several years. PG&E has thus far during DCPD's operating life expressed its interest in allowing only the existing uses to continue and it is not likely that PG&E would propose additional incompatible development during the remaining life of the facility. This means that protecting these lands from additional development would not provide mitigation for the SGRP's cooling system impacts for several years—either until the end of DCPD's operations or until PG&E changed its management approach to these lands to allow additional development. Therefore, such an easement would result primarily in the accrual of future potential benefits—that is, its primary value would be in preventing the potential future adverse impacts associated with increased development of the Diablo Canyon lands. This results in the easement having a relatively low current value for mitigation but a much higher future value.

Further, such an easement is clearly feasible. PG&E currently owns or controls about 12,791 acres that it manages for multiple uses, including coastal agriculture and habitat values. Additionally, PG&E's management of these lands has thus far focused on not allowing other forms of development that might compromise the existing level of security these lands provide as an additional buffer around DCPD's required high security area. A conservation easement would therefore be compatible with PG&E's existing management of these lands, and with its likely future management. For example, PG&E's concerns regarding security are likely to reduce the potential for additional development for the foreseeable future because of DCPD's operations until at least 2025 (with the SGRP) or beyond 2025 (if a license extension is sought and granted), or because of the anticipated continual presence of the ISFSI.

~~Additionally, PG&E has already accepted and offered conservation easements over its lands. As noted previously, PG&E in 2003 approved the Regional Board's draft mitigation package that included a variation of a conservation easement over about 2000 acres of its North Diablo Canyon lands in and near the coastal terrace where PG&E is developing public accessways pursuant to the CDP issued for its ISFSI project (though, as noted above, the Board has since changed directions with its mitigation options). That easement was to provide partial mitigation primarily for past cooling system related impacts. It included a one-time payment by PG&E of \$200,000 for an endowment to pay for the easement's stewardship costs. More recently, as part of this SGRP, PG&E offered a conservation easement over approximately 620 acres of the lands near the Pecho Coast Trail (described in Section 4.4.1—Public Access above). The primary purpose of that easement is to enhance coastal access around the trail, although the easement would also provide some of the conservation benefits needed to mitigate the cooling system impacts.~~

~~The primary issue to resolve, then, is the size of the conservation easement needed to provide maximum feasible mitigation for the cooling system impacts as required by this third test of Section 30260. As noted previously, DCP's daily use of up to 2.6 billion gallons per day of seawater habitat represents an annual loss of biological production from nearly a trillion gallons of seawater, which in turn represents the amount of water that would cover over 4500 square miles one foot deep. The source water for the DCP cooling system extends up to tens of miles along the shoreline. Further, this seawater is taken from a rich and diverse area of California's coast, with significant habitat value and a multitude of species. The effects of this amount of seawater withdrawal and discharge are therefore more substantial than they might be in an urban harbor or in a nearshore area with fewer habitat types.~~

~~By any of several methods to determine mitigation ratios, the SGRP's cooling system impacts would require a substantial easement to attain anything close to goal of "no net loss" of habitat functions and values:~~

- ~~• The most recent entrainment study at DCP shows that the cooling system entrainment losses represent what would otherwise be produced in from 300 to 1000 acres of reef habitat. While an easement would result in mostly "out-of-kind" and "off-site" mitigation, this determination provides guidance on how to determine the appropriate size for an easement. Selecting an easement to mitigate for this type of impact suggests the need for a relatively high mitigation ratio. The mitigation needed is meant to mitigate for the loss of the very high quality habitat represented by the coastal waters near DCP. The easement also represents more of a potential future mitigation value rather than a high current value. These characteristics suggest that the mitigation ratio should be higher than the 30:1 ratio mentioned above that applies when preservation is the form of mitigation provided for the loss of high quality habitat. Even applying just a 30:1 ratio to the 300 to 1000 acres of artificial reef would result in a range of 9,000 to 30,000 acres for the shoreline and upland easement.~~

- The most recent entrainment study done elsewhere along the California coast was used to determine the entrainment impacts associated with about eight years of operations at the El Segundo Generating Station. Source water for that power plant comes from lesser quality habitat—primarily the sandy bottom nearshore waters in Santa Monica Bay—but the study determined that the entrainment caused by its cooling system at 253 million gallons per day caused an annual loss of production equivalent to about 104 acres of open coastal waters. The study concluded that it would be appropriate to mitigate that loss by restoring 104 acres of nearby coastal wetlands.

Applying the ratio used in this El Segundo study—i.e., the use of 253 million gallons per day requires mitigation in the form of 104 acres of wetlands—results in the SGRP needing about 1,000 acres of restored wetlands to mitigate for its use of 2.5 billion gallons per day of seawater. The Diablo Canyon uplands are by no means as productive as restored tidal wetlands and represent even more of an “out of kind” form of mitigation, both of which suggest the need for a relatively high mitigation ratio. Using just a 10:1 ratio would put the conservation easement at about 10,000 acres.

- Finally, as noted above, the annual habitat production losses are equal to those that occur in almost 3 million acre-feet of water, or an area covering about 4500 square miles one-foot deep. While this amount of nearshore ocean water does not easily translate to a particular amount of nearby shoreline and upland area, it provides an additional sense of the magnitude of the impacts.

These three methods suggest that mitigation for the SGRP in the form of a largely upland conservation easement meant to protect biological productivity and water quality should cover somewhere between a low of about 9,000 acres and a high of several tens of thousands of acres. For the Diablo Canyon lands, however, the ongoing land use and development need to be factored in—since much of these lands do not represent pristine habitat, they therefore have less value when determining a mitigation ratio. For example, part of the land is used for coastal agriculture and cattle grazing, both of which are expected to continue for the foreseeable future. Some of the existing crop agriculture is done using pesticides, and although the grazing practices are done in what is considered a sustainable manner, they clearly result in habitat changes. Both sets of practices are also likely to result in some water quality problems. Additionally, there is limited public access in both the southern and northern portions of these lands, which reduces the overall habitat value and may cause some minor water quality problems. These aspects of the existing land management therefore lessen the ecological value of these areas as mitigation for marine impacts and suggest that a higher mitigation ratio needs to be applied to reach an adequate level of mitigation.

A final consideration is the amount of land that would be available to place under an easement. Although PG&E owns or controls about 12,791 acres of these nearby coastal watersheds, about 760 acres is within the high-security DCPP complex and an area covered by a 99-year lease could allow development of housing on about 2,269 acres. This leased land is not currently available to include in the easement; however, it would be appropriate to include it if the land were to become available. Additionally, PG&E has already included as

~~part of this SGRP a 620-acre deed restriction or easement around Point San Luis. The remaining available lands total about 9,130 acres. Even if a roughly 9,130-acre easement does not fully mitigate for the SGRP's marine resources impacts, that amount of land represents the maximum feasible mitigation required under Coastal Act Section 30260 that can take the form of an easement, since it is the full amount of available nearby lands currently owned or controlled by PG&E.~~

~~The above discussion suggests an approximately 9,130-acre conservation easement over the Diablo Canyon lands is both feasible and reasonable to mitigate for the SGRP's adverse impacts to marine biology and water quality. The Commission is therefore requiring in **Special Condition 7** that PG&E record an Offer To Dedicate a conservation easement over all portions of the DCPD lands owned or managed by PG&E or its subsidiaries other than the DCPD complex, the Leucadia/Sullivan lease, and the deed restriction or easement around Point San Luis. **Special Condition 7** also requires prior to recordation that PG&E submit an easement stewardship plan that identifies the location of the easement and specifies allowable and prohibited uses. The plan is to identify the primary purpose of the easement as the provision of conservation benefits through protection of intertidal habitat and native terrestrial habitat. The plan is to allow for continuation and enhancement of other existing types of land uses on these lands, including open space, public access, and sustainable coastal agriculture, where these uses can be implemented consistent with the easement's primary purpose. The plan is to also allow for restoration of native habitat and measures that may be needed to improve water quality, and it is to also allow for maintenance of existing power transmission right-of-ways and access to PG&E. It is also to describe the funding needed to support stewardship of the easement, and requires PG&E to fund an endowment necessary for stewardship support. With imposition of **Special Condition 7**, the SGRP meets the third test of Section 30260.~~

5.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT

On November 18, 2005, the California Public Utilities Commission certified the Environmental Impact Report done for the proposed project. In addition, Section 13096 of the Commission's administrative regulations requires Commission approval of CDP applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of the CEQA prohibits approval of a proposed development if there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant impacts that the activity may have on the environment.

As discussed above, the proposed project has been conditioned to be found consistent with the policies of the Coastal Act. Mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity would have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of CEQA.

APPENDIX A: SUBSTANTIVE FILE DOCUMENTS

- California Energy Commission, Issues and Environmental Impacts Associated With Once-Through Cooling At California's Coastal Power Plants, June 2005
- Central Coast Regional Board Staff Report on Diablo Canyon for Meeting of September 9, 2005, with Supplemental Sheet and Attachments, including Diablo Canyon Power Plant: Independent Scientists' Recommendations to the Regional Board Regarding "Mitigation" for Cooling Water Impacts, by Drs. Pete Raimondi, Greg Cailliet, and Mike Foster
- Coastal Commission, Final Adopted Findings for PG&E's ISFSI Project (A-3-SLO-04-035), January 8, 2005
- County of San Luis Obispo Certified Local Coastal Program
- County of San Luis Obispo Coastal Development Permit #DRC2004-00165 (March 7, 2006), associated files, and appeal documents
- County of San Luis Obispo Local Coastal Program Periodic Review (August 2001)
- County of San Luis Obispo Minor Use Permit #D-02-0067 for Lighthouse Road improvements
- Final Environmental Impact Report (August 2005)
- PG&E Letter to M. Caldwell regarding Response to Appeal of San Luis Obispo County Coastal Development Permit DRC2004-00165, dated May 4, 2006
 - PG&E Letter to T. Luster regarding Appeal of Coastal Development Permit DRC2004-00166, dated May 30, 2006
- PG&E Coastal Development Permit Application for Steam Generator Replacement Project
- PG&E Letter to T. Luster regarding Coastal Development Permit Application #E-06-011, dated October 19, 2006, enclosing:
 - California Public Utilities Commission Final Environmental Impact Report for Diablo Canyon Power Plant Steam Generator Replacement Project, D.3-18-22, Aspen Environmental Services, August 2005
 - Diablo Canyon Power Plant, Thermal Effects Monitoring Program Analysis Report, Chapter 2 – Assessment of Thermal Effects, Sections 5-6, Tenera Environmental Services, dated November 5, 1998
 - Diablo Canyon Power Plant, Thermal Effects Monitoring Program Analysis Report, Chapter 1 – Changes in the Marine Environment Resulting from the Diablo Canyon Power Plant Discharge, Summary Section, Tenera Environmental Services, dated December 1997
 - Diablo Canyon Power Plant, Clean Water Act Section 316(b) Demonstration Report, Executive Summary, Tenera Environmental Services, dated March 1, 2000
- PG&E's Diablo Canyon Power Plant Steam Generator Replacement Project November 2006 Briefing Materials

- PG&E's Diablo Canyon Power Plant Temporary Facilities Related To Steam Generator Replacement Project – Nexus Issues Related To PG&E's Voluntary Conservation Proposal, November 2006 Briefing Materials
- PG&E Letter to M. Caldwell and Commissioners regarding Commission Agenda Items Th 6a-b, dated December 8, 2006
- PG&E Letter to M. Caldwell and Commissioners regarding Commission Agenda Items Th 6a-b, dated December 14, 2006
PG&E Letter to Commissioners regarding Conservation Offer, dated January 29, 2008
Wetland Strategic Plan Implementation Project, Preservation Sub-Committee, Mitigation Tools For Special Circumstances: Preservation of High Quality Wetlands, Washington State Department of Transportation, June 1999
- PG&E Letters (2) to Commission regarding Revised Findings, dated January 29, 2008.
- Presentation on Entrainment and Impingement to California Coastal Commission by Dr. Pete Raimondi, December 13, 2006