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STAFF REPORT: REGULAR CALENDAR

CDP Application File No.	**9-25-0739**
Consistency Certification No.:	**CC-0003-23**
Applicant:	Pacific Gas and Electric Company (PG&E)
Project Location:	Diablo Canyon Power Plant, approximately six miles north of Avila Beach, San Luis Obispo County.
Project Description:	Relicense and extend operation of Diablo Canyon Power Plant and associated development.
Staff Recommendation:	Approval with Conditions (CDP Application), and Conditional Concurrence (Consistency Certification)

SUMMARY OF STAFF RECOMMENDATION

Pacific Gas and Electric Company ("PG&E") is seeking Coastal Commission ("Commission") review of a consistency certification for new 20-year federal operating licenses for Diablo Canyon Nuclear Power Plant's two electricity generating units, Unit 1 and Unit 2. PG&E is simultaneously seeking Commission review of a coastal development permit application for operation of the generating units for a shorter duration, until Oct. 31, 2029 (Unit 1), and Oct. 31, 2030 (Unit 2) – as considered in Senate Bill 846 (Dodd, Chapter 239, 2022) and authorized in December of 2023 by the California Public Utilities Commission ("CPUC").

The different operating durations being considered in the Commission's two reviews stems from PG&E's applications to the federal Nuclear Regulatory Commission for new

20-year licenses – which sets the scope for PG&E's associated federal consistency certification – and the more limited five year extension of operations authorized by the state legislature and CPUC – which sets the scope of PG&E's application for a coastal development permit under the state Coastal Act. PG&E's coastal development permit application also proposes several other discrete projects that are primarily focused on enhancement or repair and maintenance of key infrastructure at the power plant, including its intake structure and the dock and breakwater that are parts of its harbor.

PG&E owns and operates Diablo Canyon Power Plant ("DCPP"), which it has operated since the mid-1980s at its location within a 12-mile stretch of largely undeveloped coastline in San Luis Obispo County between Montaña de Oro State Park and Port San Luis (**Exhibits 1**, **2**). DCPP is sited on an approximately 600-acre high-security area about midway along the more than 12,000 acres owned by PG&E and its subsidiary, Eureka Energy Company, in this area (**Exhibit 4**). DCPP is the state's single largest source or electricity – approximately 2240 megawatts – and provides roughly 17% of California's zero-carbon electricity.

The federal Nuclear Regulatory Commission ("NRC") licenses the operation of domestic nuclear power plants in accordance with the Atomic Energy Act of 1954 and NRC's implementing regulations. The NRC has exclusive jurisdiction over all radiological aspects of DCPP operations. Under federal law, the state is preempted from imposing upon operators of nuclear facilities any regulatory requirements concerning radiation hazards or nuclear safety. However, the state may impose requirements relating to other issues, including conformity with the California Coastal Act and the enforceable policies of the California Coastal Management Program ("CCMP").

Since it began, DCPP has been operating pursuant to two 40-year NRC operating licenses for its Units 1 and 2. Unit 1 was licensed through November 2, 2024, and Unit 2 was licensed through August 26, 2025. In January of 2018, the California Public Utilities Commission approved PG&E's application to retire the power plant and cease operations by these dates. In late 2022, however, prior to these expiration and retirement dates, the California legislature passed, and the Governor signed, Senate Bill 846 ("SB 846") focused on DCPP operations, including the following: approval of a $1.4 billion loan from the State to PG&E to facilitate extended operations; an allocated total of $160 million in the future to support implementation of a Land Conservation and Economic Development Plan to be developed by the California Natural Resources Agency; expedited permitting and a categorical exemption under CEQA for the plant's extended operations; and a requirement for the California Public Utilities Commission to set new retirement dates for the plant's reactor units. Following passage of SB 846, PG&E submitted complete applications to the NRC for relicensing both units, which allows for continuing operations until the NRC makes a determination on the pending applications.[1] The relicensing periods, if approved, would extend up to 20 additional years beyond the prior license expiration dates – i.e., until 2044 and 2045.

[1] The NRC granted PG&E an exemption from 10 CFR 2.109(b) which states that if a nuclear power plant licensee files a sufficient license renewal application with the NRC at least 5 years before the expiration of

As part of the NRC process and before it can make a decision on PG&E's applications, the Coastal Commission conducts federal consistency review on the proposed relicensing to determine whether issuance of new 20-year licenses by NRC would conform to the enforceable policies of the CCMP. This staff report evaluates whether the proposal is consistent with the CCMP and identifies any measures needed to ensure conformity. The Commission's primary standard of review for the CCMP is Chapter 3 of the Coastal Act, which requires consideration of whether the proposed federal activity – in this case, relicensing – conforms to policies regarding protection of marine life and productivity, public coastal access, water quality, commercial and recreational fishing, and other coastal resources.

To maximize efficiency and expedite the Commission's review process, this staff report also evaluates PG&E's coastal development permit application. Because SB 846 only considers – and the California Public Utilities Commission has only approved – operation of DCPP's reactor units through October of 2029 and 2030, respectively, PG&E's CDP application proposes operations until these dates. As such, this report will evaluate operation of DCPP until these dates as well as the later dates of 2044 and 2045 included in PG&E's applications to the NRC and associated consistency certification. To help address the timing disconnect between the operating term under consideration by the NRC and that approved by the California Public Utilities Commission, **Special Condition 18** is included to establish a process for PG&E to seek an amendment to its CDP to extend its term if such an extension is first authorized by the California Public Utilities Commission.

The primary adverse impacts to coastal resources associated with the proposed relicensed and extended operations of DCPP are those to marine biological resources and productivity related to entrainment, which occurs when the power plant draws in seawater for its once-through-cooling ("OTC") system, and along with it, the myriad small marine organisms, eggs, larvae and early life stages of species that make up the base of the ocean's food web. DCPP uses about 2.5 billion gallons of seawater per day, which equals almost a cubic mile of seawater per year. For context, this made up roughly 62% of the total volume of cooling water used by all coastal power plants in California in 2024. The most recent available entrainment studies show that the DCPP's use of seawater results in an annual loss of marine life equal to that produced in up to 9,360 acres, or more than 14 square miles, of nearshore waters. This loss of biological and public trust resources each year represents a significant adverse effect on the productivity of these waters and reduces the biological connectivity of state-designated Marine Protected Areas located nearby and up-current from DCPP with those downcoast.

Although it initially declined to submit a coastal development permit ("CDP") application to extend operation of DCPP or acknowledge that mitigation is necessary to address the

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the existing license, the existing license will not be deemed to have expired until the application has been finally determined.

plant's impacts to coastal resources, on October 10, 2025, PG&E submitted a CDP application for Commission review. [2] In addition, to help offset the adverse impacts to marine life resulting from an extension in use of the plant's cooling system, as well as those associated with the loss of coastal access and recreation resulting from continuation of the expansive safety and security closure zone surrounding the plant, PG&E has included a mitigation package as part of its consistency certification and CDP application.

This mitigation proposal includes four main elements and would be implemented in two phases. Phase 1 would be for operation of DCPP's Units 1 and 2 through October of 2029 and 2030, respectively, and includes: (1) establishment of a conservation easement across approximately 1,100 acres of the "North Ranch" portion of PG&E's property directly adjacent to Montaña de Oro State Park; (2) an offer to dedicate a public access trail easement for roughly ten miles of new trail alignments, including extension of the existing Point Buchon Trail into a loop configuration that includes the inland ridge and connects through Crowbar Canyon as well as extension of the existing Pecho Coast Trail into a loop configuration that includes the summit of San Luis Hill overlooking Port San Luis; (3) establishment of a right-of-first-refusal for government or non-profit land conservation organization, including those of California Native American Tribes, purchase of the lands within the 5,000 acre "South Ranch" portion of the Diablo Canyon property owned by PG&E's subsidiary, the Eureka Energy Company; and (4) an offer of $5.6 million to accompany the trail easement to be used for planning, construction, management and maintenance of public access trails. Phase 2 of PG&E's proposed mitigation would be triggered by operation of DCPP beyond those dates of the current California Public Utilities Commission approval and would include: (1) an additional conservation easement over approximately 2,200 more acres of "North Ranch"; and (2) an additional offer to dedicate a public access trail easement for roughly 15 additional miles of trail alignments, including two that would combine to link across the entirety of the Diablo Canyon property and provide a "through-trail" connection from Montaña de Oro State Park to Port San Luis, further extending the California Coastal Trail in this area.

Although this proposed mitigation would be "out-of-kind" compensation for DCPP's adverse impacts to marine life through the conservation of coastal lands (both directly through a conservation easement and more indirectly through establishment of a purchase option for government agencies and land conservation groups), it represents

[2] PG&E submitted a CDP application and proposed mitigation without waiving its legal arguments that "a CDP is not required under the Coastal Act for exempted maintenance and repair activities and those covered under DCPP's vested rights claim granted by the CCC on November 15, 1973." Letter from T. Jones, PG&E, to C. Teufel, CCC, dated October 10, 2025. For the reasons discussed in this staff report, Commission staff maintains that a CDP is required for an extension in operation of the cooling intake system and that mitigation is required for impacts associated with use of that system. In addition, a CDP is required for other development activities associated with extended operations under Section 30106 of the Coastal Act, including repair and maintenance activities requiring a CDP under Section 13252 of the Commission's regulations. An extension in use of the cooling intake structure and development activities associated with extended operation of DCPP are covered within the scope of PG&E's CDP application.

the most feasible and likely to succeed of the various mitigation alternatives considered by Commission staff. Additionally, this proposed mitigation directly aligns with the community goals identified in: (1) the Diablo Resources Advisory Measure, the "DREAM Initiative" which passed with support from almost 75 percent of San Luis Obispo County voters in March of 2000 and called for the Diablo Canyon lands to be recognized "as an exceptionally precious coastal resource" and to be set aside for habitat preservation and public use; (2) the recommendations of the Diablo Canyon Decommissioning Engagement Panel's Strategic Vision Report[3], which reflects the input and sentiments of hundreds of community members and thousands of public comments in identifying the Diablo Canyon lands as "a precious treasure and spectacular natural resource to be preserved in perpetuity for the public and future generations" and calling for the public "to be ensured access to the greatest extent possible while preserving sensitive habitats, cultural sites and other resources"; and (3) the report and conservation framework prepared in 2021 by the broad local stakeholder group, Friends of the Diablo Canyon Lands, titled, "The Diablo Canyon Lands: a plan for their conservation and future use."[4]

These enduring community and stakeholder goals and values were captured again more recently in the May 2023 Diablo Canyon Power Plant Land Conservation and Economic Development Plan[5], prepared by the California Natural Resources Agency pursuant to SB 846. PG&E's proposal includes the vast majority of the Diablo Canyon lands to which it and its subsidiary have unconstrained control[6] and covers a wide variety of intact native vegetation communities, habitats and watersheds that have been minimally developed and only partially used for limited cattle grazing. Conservation of these lands for open space and public access and protection from residential, commercial or industrial development therefore represents a significant opportunity to not only protect them in perpetuity but to remove future stressors and sources of adverse impacts to the adjacent marine environment such as pollutant and nutrient-laden runoff, soil erosion and sedimentation, and loss and disturbance to wildlife.

Fundamental to the success of this mitigation approach, however, is an assumption that the proposed right of first refusal will result in the permanent conservation of the South Ranch lands and their protection from residential, commercial or industrial development. Although facilitating purchase of the land by a public entity or non-profit land conservation organization would help achieve this outcome, it would rely on the availability of funding and resolution of all the detailed arrangements associated with a land purchase of this kind as well as the establishment of a conservation easement immediately following a successful purchase. To both memorialize PG&E's mitigation

[3] https://diablocanyonpanel.org/panel-reports/strategic-vision-report/
[4] https://diablocanyonlands.org/
[5] https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Transitioning-to-Clean-Energy/SB-846-Land-Conservation-and-Economic-Development-Plan.pdf
[6] The proposal does not include a roughly 1,100 acre portion of North Ranch included within the security buffer area PG&E has identified to the north of the power plant or the roughly 2,400 acres of Wild Cherry Canyon upon which an appeals court recently ruled were covered by back-to-back 99-year leases held by a third party. Although that ruling has been approved for reconsideration, the outcome of that remains uncertain.

proposal and address this uncertainty, staff recommends **Special Conditions 1 through 3** and the inclusion within them of a contingency provision that would require PG&E to seek an amendment to its coastal development permit if the proposed right of first refusal options are not acted on or if the purchasing entity does not establish a conservation easement or deed restriction to protect the land exclusively for open space and habitat conservation.

Given the large scale of the DCPP's adverse impacts to coastal resources, more direct mitigation alternatives, such as those required on other projects for lower volumes of entrainment – construction of artificial reefs and creation/restoration of estuarine wetlands – are impractical or infeasible. For example, there are no known locations or opportunities available for creating the hundreds of acres of wetlands and reefs that would be needed as direct mitigation. Further, monitoring results and information generated from the limited number of larger-scale estuary and marine habitat creation projects that have been attempted in the past indicate that such projects face a variety of challenges and significant uncertainty in achieving success.

Nevertheless, even though PG&E's mitigation proposal represents the most feasible mitigation and would provide lasting and substantial benefits to a wide range of coastal resources, it would not be sufficient to achieve consistency of the proposed project with the Coastal Act and CCMP marine biological resource protection policies, Sections 30230 and 30231, due to the large scale of the entrainment impacts. These policies require marine resources and productivity to be maintained, enhanced and restored and further require entrainment impacts to be minimized. While PG&E's mitigation proposal provides a framework for achieving the long-term offset of the DCPP's adverse impacts to marine life, the entrainment impacts would not be minimized and marine resources and productivity would not be maintained or enhanced. Although extended operations do not conform to marine biological protection policies of the Coastal Act and CCMP, the proposed project nonetheless may be approved under the "override" provision of Coastal Act Section 30260 because DCPP is a coastal-dependent industrial facility. Commission staff's analysis concludes that the proposed project additionally meets Section 30260 because there are no feasible and available alternatives to the project, the project is conditioned to be mitigated to the maximum extent feasible, and it would not adversely affect the public welfare.

The DCPP is located in an area subject to geologic and coastal hazards. Recent studies and independent reviews by PG&E, NRC and the Diablo Canyon Independent Safety Committee indicate that plant siting and design minimizes seismic and tsunami hazards, and with **Special Condition 7**, requiring a supplemental seismic analysis, using best available science, as part of any future CDP or amendment application for plant operations beyond 2030, the project can be found consistent with Coastal Act Section 30253.

Staff has also recommended several other **Special Conditions** meant to allow PG&E's proposed development to conform to other Coastal Act policies regarding water quality, protection of biological resources, and others. These include, for example, requiring

Best Management Practices and marine mammal monitoring during inwater construction activities, requiring surveys for sensitive species before work activities, submittal of proposed repair and maintenance activity plans for Executive Director review and approval, and other requirements,

The staff therefore recommends that the Commission **conditionally concur** with PG&E's consistency certification CC-0003-23 and **approve** PG&E's coastal development permit application No. 9-25-0739, subject to recommended **Special Conditions 1 through 19**. The motion and resolution are on page 9 of this report. The standard of review for this consistency certification is the Chapter 3 policies of the Coastal Act.

TABLE OF CONTENTS

I. APPLICANT'S CONSISTENCY CERTIFICATION 9

II. MOTIONS AND RESOLUTIONS 9

III. STANDARD CONDITIONS 10

IV. SPECIAL CONDITIONS FOR CONSISTENCY CERTIFICATION AND COASTAL DEVELOPMENT PERMIT 10

V. FINDINGS AND DECLARATIONS 26
A. Project Descriptions and Background 26
B. Coastal Commission Jurisdiction 35
C. Consultations and Other Agency Approvals 38
D. Marine Biological Resources 41
E. Coastal Dependent Industrial Development 77
F. Public Access and Recreation 85
G. Cultural Resources 101
H. Hazards 109
I. Fill of Coastal Waters 126
J. Water Quality and Spill Prevention and Response 129
K. Commercial and Recreational Fishing 133
L. California Environmental Quality Act 134

APPENDIX A – SUBSTANTIVE FILE DOCUMENTS 135

APPENDICES

Appendix A - Substantive File Documents
Appendix B - Technical Memorandum: Land Conservation as Compensatory Mitigation for Marine Resources Impacts
Appendix C - Diablo Canyon Geologic Hazards

EXHIBITS

Exhibit 1 – Location Map
Exhibit 2 – Vicinity Map
Exhibit 3 – Facility Site Map
Exhibit 4 – Diablo Canyon Lands Map
Exhibit 5 – Mitigation Proposal
Exhibit 6 – Intake Cove Eelgrass Map
Exhibit 7 – Outfalls Map

I. APPLICANT'S CONSISTENCY CERTIFICATION

PG&E has certified that the proposed activity (CC-0003-23) complies with the California Coastal Management Program (CCMP) and will be conducted in a manner consistent with that program.

II. MOTIONS AND RESOLUTIONS

1. Coastal Development Permit

Motion:

I move that the Commission **approve** Coastal Development Permit No. 9-25-0739 pursuant to the staff recommendation.

Staff Recommendation:

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion only passes by an affirmative vote of a majority of the Commissioners present.

Resolution:

The Commission hereby approves Coastal Development Permit 9-25-0739 and adopts the findings set forth below on grounds that the development, as conditioned, will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit incorporates feasible mitigation measures and/or alternatives to substantially lessen any significant adverse effects of the development on the environment, or there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment. Furthermore, all project activities authorized by the Coastal Development Permit are categorically exempt under the California Environmental Quality Act pursuant to California Public Resources Code section 25548.2.

2. Consistency Certification

Motion:

I move that the Commission conditionally concur with consistency certification CC-0003-23 on the grounds that, if modified in accordance with the conditions recommended by staff, the project described therein would be consistent with the enforceable policies of the California Coastal Management Program (CCMP)

Staff recommends a **YES** vote on the motion. Passage of this motion will result in conditional concurrence with the certification and adoption of the following resolution

and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

Resolution:

The Commission hereby **conditionally concurs** with consistency certification CC-0003-23 by PG&E on the grounds that, if modified in accordance with the conditions recommended by staff, the project described therein would be consistent with the enforceable policies of the CCMP.

III.STANDARD CONDITIONS

This Coastal Development Permit No. 9-25-0739 is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration**. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for an extension of the permit must be made prior to the expiration date.

3. **Interpretation**. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment**. The permit may be assigned to any qualified person, provided 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.

IV. SPECIAL CONDITIONS FOR CONSISTENCY CERTIFICATION AND COASTAL DEVELOPMENT PERMIT

1. **Conservation Easements.** Within 12 months of license approval by the Nuclear Regulatory Commission, PG&E or its subsidiaries or affiliates (as used in this special condition, “PG&E”) shall record an irrevocable offer to dedicate a conservation easement, in a form and content acceptable to the Executive Director of the Coastal Commission (the “Executive Director”), over approximately 1,100 acres as described

below as mitigation for the adverse effects on marine biology and water quality ("Initial OTD"). In the event that the California Public Utilities Commission authorizes operations of DCPP beyond October 31, 2030, PG&E shall, within 12 months of the date of that authorization, additionally record an irrevocable offer to dedicate a conservation easement, in a form and content acceptable to the Executive Director, over another approximately 2,200 acres as described below as mitigation for additional adverse effects on marine biology and water quality. Until such time as the California Public Utilities Commission authorizes the cessation or continuance of DCPP operations beyond October 31, 2030, PG&E shall retain ownership of these approximately 2,200 acres. The Initial OTD and Supplemental OTD (individually referred to in this special condition as the "Offer" and collectively as the "Offers") to dedicate shall be to a public agency or to a non-profit land conservation organization that is subject to approval by the Executive Director.

A. Location: The easement for the Initial OTD shall cover approximately 1,100 acres of land and shoreline owned or controlled by PG&E within the coastal watersheds in the North Ranch area surrounding the Diablo Canyon Power Plant as shown in **Exhibit 5** (the "Initial Easement Area") and including Assessor Parcel Number 076-011-030. The easement for the Supplemental OTD shall cover approximately 2,200 acres of land and shoreline owned or controlled by PG&E within the coastal watersheds in the North Ranch area surrounding the Diablo Canyon Power Plant as shown in **Exhibit 5** (the "Supplemental Easement Area") and including Assessor Parcel Numbers 076-011-031, 076-011-032, 076-021-010, 076-021-023, 076-031-007, 076-032-017, 076-091-002, 076-091-005, 076-091-015, 076-091-016. No development, as defined in section 30106 of the Coastal Act, shall occur within the Initial Easement Area and Supplemental Easement Area (individually referred to as the "Easement Area" collectively as the "Easement Areas") except pursuant to the stewardship plan described below.

B. Stewardship Plan: For each of the Initial OTD and, if applicable, the Supplemental OTD, PG&E shall prepare for Executive Director review and approval a stewardship plan to be incorporated into the terms of each of the Offers. Each stewardship plan shall be submitted to the Executive Director no later than six months prior to the applicable recordation deadline for the Offers. 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 permanent protection of intertidal and terrestrial habitat from industrial, commercial, residential and associated development. In addition to habitat protection, the easement shall provide for open space for the purpose of habitat protection and for public and tribal access (including but

not limited to Tribal ceremonial use, Tribal gathering of natural materials, trails, signage, benches, shade structures and restroom facilities) that can be implemented consistent with the easement's primary purpose. The easement may also allow for 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. The easement shall also allow for maintenance of existing power transmission rights-of-way and associated existing roads, and unrestricted access to existing PG&E facilities. Moreover, existing electric and gas facilities shall be recognized as an authorized use.

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 by the receiving entity to provide the allowable and existing uses described above. The plan shall also describe how currently required and anticipated accessways will be completed. These include continued access and development necessary to support access along the Point Buchon Trail, and access to be developed under this CDP.

iv. The plan shall include necessary and reasonable restrictions on timing, number of people allowed on all public accessways, and group activities for public access on the site that are consistent with the primary purpose of the easement; provided, however, that nothing in the plan or easement shall be used or construed to allow anyone to interfere with any rights of public access acquired through use, coastal development permits, or other approvals, nor shall this special condition impair or affect the requirements in **Special Condition 3** of this permit, including but not limited to the requirement to record an OTD for the public access easements specified therein. Executive Director review of the plan shall include tribal consultation to inform the inclusion of reasonable measures for the protection of Tribal Cultural Resources (as defined in Cal. Public Resources Code § 21074) and provisions for allowing tribal access, consistent with the primary purpose of the easement.

v. The plan shall also describe how it will ensure that agricultural uses on the property are carried out consistent with sustainable coastal agricultural practices, including rotation of grazing areas, and avoidance or minimization of pesticides and herbicides use.

vi. A description of the funding needed to support stewardship of the easement.

C. **Recordation of Offer To Dedicate:** Within 30 days of recordation of each applicable Offer, PG&E shall provide documentation to the Executive Director showing that it has recorded the Offer with San Luis Obispo County for acceptance by a public agency or non-profit land conservation organization approved by the Executive Director. PG&E shall also provide documentation to the Executive Director showing that the Offer includes all conditions of the stewardship plan approved by the Executive Director.

i. The Offer shall include a legal description and corresponding graphic depiction of the legal parcel(s) subject to this permit and a metes and bounds legal description and a corresponding graphic depiction, drawn to scale, of the Easement Area prepared by a licensed surveyor based on an on-site inspection of the Easement Area.

ii. The Offer shall be recorded free of liens and prior encumbrances that the Executive Director determines may affect the interest being conveyed. The Offer shall provide that it 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 Easement Area. The Offer shall run with the land in favor of the State of California binding successors and assigns of the applicant or landowner. The Offer shall be irrevocable for a period of 21 years, such period running from the date of recording, and indicate that the restrictions on the Easement Area shall be in effect upon recording and remain as covenants, conditions and restrictions running with the land in perpetuity, notwithstanding any revocation of the Offer.

2. **Right of First Refusal.** Prior to or upon any offer for sale, transfer, encumbrance, or other conveyance (as used in this special condition, an “Offer”) of any real property (or portion thereof) within the South Ranch area of the Diablo Canyon lands, comprised of approximately 5,000 acres and [APN Nos. 076-151-009, 076-151-012, 076-151-013, 076-171-016, 076-171-019, 076-171-032, 076-172-016, 076-172-018, 076-172-020, 940-000-583] (the “Property”), by Eureka Energy Company (“Eureka Energy”), PG&E shall enter into an agreement with Eureka Energy to require Eureka Energy to offer and grant the Option (as defined below) as described in this special condition with respect to such Property (“pre-Option Agreement”); provided, however, the pre-Option Agreement shall not be executed without the prior review and written approval by the Executive Director. PG&E shall provide the fully executed pre-Option Agreement to the Executive Director within 10 days after its execution.

PG&E shall provide the Executive Director with a copy of the terms of such Offer, after which an Approved Purchaser (defined below) shall have the right to enter into an agreement for an exclusive option to purchase of the Property, on the same terms in the Offer or discounted, subject to the condition that such

purchase shall be for the primary purpose of habitat protection, as well as for open space protection, public and tribal access (including but not limited to Tribal ceremonial use, Tribal gathering of natural materials, trails, signage, benches, shade structures and restroom facilities), consistent with the primary purpose and with the protection of tribal cultural resources (the "Option"). The terms in the Offer may not be above the fair market value of the Property. The Option shall recognize that PG&E may reserve a necessary and reasonable easement for its existing electric and gas facilities on the Property. The Property may be purchased, under an exclusive option, by a local, State or federal government agency, or, if no such agency exercises the Option within 120 days ("Initial Exercise Deadline"), then additionally to a non-profit land conservation organization, including those of California Native American Tribes, approved by the Executive Director (an "Approved Purchaser"), which purchaser may exercise the Option within 120 days after the Initial Exercise Deadline. As part of the vesting documentation for the purchase of the Property pursuant to the Option, terms shall be incorporated to require that title shall vest subject to terms and conditions ensuring the Property is irrevocably protected for the above-referenced purposes in perpetuity through establishment of a conservation easement , which terms and conditions shall be reviewed and approved in writing by the Executive Director before the transfer of the Property pursuant the Option takes effect. Within 90 days of license renewal approval by the Nuclear Regulatory Commission, PG&E shall develop and submit for the Executive Director's review and approval an agreement with the Commission that effectuates the Option described herein. The agreement shall set forth the terms and conditions consistent herewith under which the Option may be exercised, including but not limited to a perpetual option term, notice requirements, purchase procedures, and closing obligations. PG&E shall sign the agreement upon its approval by the Executive Director, and the agreement or a memorandum thereof shall be recorded in the County where the Property is located within 30 calendar days thereafter. In the event that no Approved Purchaser exercises the Option or no Approved Purchaser acquires legal title after exercising the Option as specified in this condition, PG&E shall submit an amendment application to this CDP to propose alternative mitigation.

Notwithstanding the foregoing provisions, nothing in this special condition shall be used or construed to allow anyone to invalidate or otherwise interfere with rights of public access acquired through use, coastal development permits, or other approvals, nor shall this special condition impair or affect the requirements in Special Conditions 1, 3, and 4 of this CDP, including but not limited to the requirement to record an OTD for the public access easements specified therein.

3. Offer to Dedicate New Trail Easements for Public Access

A. Offer to Dedicate Recordation. WITHIN 12 MONTHS OF LICENSE APPROVAL BY THE NUCLEAR REGULATORY COMMISSION, PG&E or its subsidiaries or affiliates (as used in this special condition, "PG&E") shall execute and record document(s) in a form and content acceptable to the Executive

Director, irrevocably offering to dedicate to a public agency or a non-profit land conservation organization that is subject to approval by a the Executive Director, floating easements for the public access trails identified as “Crowbar Canyon” (approximately 1.7 miles), “Buchon Hills Loop” (approximately 3.2 miles), “Coon Creek Connector” (approximately 1 mile), “San Luis Bay Overlook” (approximately 2.7 miles), and Pecho Loop Trail (approximately 1.7 miles), as generally depicted in **Exhibit 5** (“Phase I Trails”). In the event that the California Public Utilities Commission authorizes PG&E to continue operations of DCPP beyond October 31, 2030, PG&E shall, within 12 months of the date of that authorization, additionally execute and record document(s) in a form and content acceptable to the Executive Director, irrevocably offering to dedicate to a public agency or non-profit land conservation organization that is subject to approval by the Executive Director, floating easements for public access trails identified as “Diablo Canyon Trail” (approximately 9.7 miles), and “South Ranch Connector” (approximately 1.3 miles), as generally depicted on **Exhibit 5** (“Phase II Trails”). No structure or access will be required to cross the DCPP primary access road during plant operations. As an alternative to the South Ranch Connector trail, PG&E may irrevocably offer to dedicate, subject to the same conditions as with the South Ranch Connector trial, the Alternative Wild Cherry Canyon Alignment (approximately 3.3 miles), provided that PG&E demonstrates to the Executive Director that it has the legal capacity to do so. If the South Ranch Connector option is carried forward, physical improvements associated with the DCPP primary access road crossing would be completed within 180 days of planned plant shutdown, or within 18 months of unplanned permanent plant shutdown, provided that all necessary permits have been issued in time to complete the work.

In the event that PG&E can secure public access for the “Alternative Wild Cherry Canyon Alignment,” PG&E shall seek Executive Director approval for the final alignment and easement width

The floating easements shall be no less than 25 feet wide on the North Ranch lands and no less than 50 feet wide on the South Ranch lands identified in **Exhibit 5** and shall specify that the trails are to be provided for multiple access uses (hiking, biking and equestrian) to the maximum extent feasible.

The recorded document(s) shall include descriptions and corresponding graphic depictions of both PG&E’s entire parcel(s) and the trail easement areas. The offers to dedicate required under this special condition (“Trail OTDs”) shall be recorded free of prior liens and encumbrances that the Executive Director determines may affect the interest being conveyed. The Trail OTDs shall run with the land in favor of the People of the State of California, binding all successors and assignees, and shall be irrevocable for a period of 21 years, such period

running from the date of recording. Any development, as defined in Section 30106 of the Coastal Act, that would diminish permanent public access and recreational use of the easement areas is prohibited. The Executive Director may extend, in writing, for good cause, the 12-month period for execution and recordation of the offer.

B. Alignment of Public Access Easements. Upon acceptance of the offered dedications described in Part A of this condition, the accepting entity shall determine the exact alignments of the public access trails and any necessary and reasonable restrictions to avoid significant impacts to environmental or cultural tribal resources, subject to the review and approval of the Executive Director. The determination shall be based on site-specific analyses of existing ranch roads, established cattle trails as well as cultural resource data and tribal consultation to inform the inclusion of reasonable measures for the protection of Tribal Cultural Resources (as defined in Cal. Public Resources Code § 21074), environmental and topographic conditions existing at the time and physical development related to trails to be constructed (collectively referred to as "Existing Data"), and may be subject to an amendment to this permit or a separate CDP, as determined by the Executive Director of the Commission. PG&E shall additionally provide Existing Data to the accepting entity (with a copy to the Executive Director) and to fund additional studies for environmental, topographic, and/or cultural resources conditions concerning trails to be constructed and for which there is no Existing Data available, and to provide those additional studies to the accepting entity, with a copy to the Executive Director. If the studies contain cultural resource or other information protected as confidential under existing law, PG&E shall protect the confidentiality of that information through confidentiality agreements with the receiving entities.

C. Public Trail Access Easement Management. Once the offered dedications described in Part A of this condition have been accepted, management and maintenance of the respective easement areas and physical improvements constructed within the easement areas shall be the responsibility of the accepting entity. The accepting entity may receive assistance and enter into partnerships with public entities, conservation organizations, and nonprofit groups for the construction, management, and maintenance of the public access trails.

D. Nothing in this special condition shall be used or construed to allow anyone to interfere with any rights of public access acquired through use, coastal development permits, or other approvals.

4. Offer to Dedicate Easements for Point Buchon Trail and Pecho Coast Trail

A. **Offer to Dedicate Recordation**. Within 12 months of license approval by the Nuclear Regulatory Commission, PG&E or its subsidiaries or affiliates (as used in this special condition, "PG&E") shall record an irrevocable offer to dedicate a

public access easement, in a form and content acceptable to the Executive Director, over the existing Point Buchon Trail ("Point Buchon OTD") required under CDP No. A-3-SLO-04-035, for which a deed restriction was recorded on July 29, 2019 in San Luis Obispo County ("Point Buchon Deed Restriction"). Except as otherwise provided in this special condition, the Point Buchon OTD shall include the same area and the same covenants, restrictions and conditions in the Point Buchon Deed Restriction. The Point Buchon OTD shall be to a public agency or to a non-profit land conservation that is subject to approval by the Executive Director. The existing Point Buchon Deed Restriction shall remain in effect until an approved entity accepts the OTD through a binding and effective acceptance.

Within 12 months of license approval by the Nuclear Regulatory Commission, PG&E shall record an irrevocable offer to dedicate a public access easement, in a form and content acceptable to the Executive Director, over the existing Pecho Coast Trail ("Pecho Coast OTD") that was required under CDP No. A-4-82-593 ("Pecho Coast Trail"), and under which PG&E developed and has implemented a Pecho Coast Trail Accessway Management Plan. Except as otherwise provided in this special condition, the Pecho Coast OTD shall include the same area and the same requirements, restrictions and conditions in the Pecho Coast Trail Accessway Management Plan. The Pecho Coast OTD shall be to a public agency or to a non-profit land conservation that is subject to approval by the Executive Director. In the alternative to the Pecho Coast OTD, PG&E may instead propose to modify the existing alignment for the Pecho Coast Trail ("Modified Pecho Coast Trail") In that event, the Modified Pecho Coast Trail shall be included as a "Phase I Trail" under Special Condition 3, and PG&E shall instead follow the requirements of Special Condition 3 for an offer to dedicate a public access easement for a Modified Pecho Coast Trail. The Pecho Coast Trail Accessway Management Plan shall remain in effect until an approved entity accepts the Pecho Coast OTD or, alternatively, until an approved entity accepts an offer to dedicate an easement for the Modified Pecho Coast Trail, through a binding and effective acceptance.

Within 30 days of recordation of the Point Buchon OTD and the Pecho Coast OTD (collectively referred to in this special condition as the "OTDs"), PG&E shall provide documentation to the Executive Director showing that it has recorded the OTDs with San Luis Obispo County for acceptance by a public agency or non-profit land conservation organization approved by the Executive Director. The OTDs shall be recorded free of liens and prior encumbrances that the Executive Director determines may affect the interest being conveyed. The OTDs shall run

with the land in favor of the State of California, binding successors and assigns of the applicant or landowner. The OTDs shall be irrevocable for a period of 21 years, such period running from the date of recording. Any development, as defined in Section 30106 of the Coastal Act, that would diminish permanent public access and recreational use of the easement areas is prohibited. The Executive Director may extend, in writing, for good cause the 12-month period for execution and recordation of the OTDs.

B. Public Trail Access Easement Management. Once the OTDs described in this special condition have been accepted, management and maintenance of the respective easement areas and any physical improvements constructed within the easement area shall be the responsibility of the accepting entity. The accepting entity may receive assistance and enter into partnerships with public entities, conservation organizations, and nonprofit groups for the construction, management, and maintenance of the public access trails.

C. Nothing in this special condition shall be used or construed to allow anyone to interfere with any rights of public access acquired through use, coastal development permits, or other approvals.

5. **Alternative Trail Alignment.** Nothing in this coastal development permit shall be construed as precluding the consideration of any public trail alignment alternatives that are the subject of this permit, including alignments that may be partially or wholly located outside the easements offered pursuant to the special condition above.

6. **Easement Funding.** PG&E shall provide a total of $5.5 million in funding ("Easement Funding") for the public access easements specified in Special Conditions 3 and 4 ("Public Access Easements") for the planning, development, construction, improvement, management, maintenance, and operation of public access trails in the Public Access Easements. In addition, PG&E shall provide $100,000 in funding for administration of the Easement Funding. Within 120 days of CDP approval, PG&E shall submit to the Executive Director for review and approval a proposed Funding Agreement, which shall include, at a minimum: (i) the amounts and eligible uses of the Easement Funding, as specified above; (ii) terms regarding the funding method and schedule; (iii) any other reasonable and necessary terms to ensure timely and effective implementation of the Easement Funding and the Public Access Easements. PG&E shall sign the agreement upon its approval by the Executive Director.

7. **Supplemental Seismic Hazards Analysis.** Any future CDP or CDP Amendment application for continued operations of the DCPP beyond October 31, 2030 shall be supported by a supplemental evaluation of seismic hazards at the site, using the

best available science in relation to (a) the slip rate of the Hosgri fault, and (b) the fault geometry and fault slip rates of the Irish Hills faults, and substantially following the recommendations of the Independent Peer Review Panel (IPRP) for Seismic Hazard Studies of the Diablo Canyon Nuclear Power Plant, Report No. 16 (dated August 26, 2024) and the Commission Geologist's October 16, 2025 Technical Memorandum (**Appendix C**).

The supplemental analysis shall generate a ground motion response spectrum for the site that shall be compared to the plant design basis, and make recommendations as to whether any upgrades, repairs or modifications to plant structures or equipment are necessary to assure the non-radiological stability and structural integrity of the plant for the proposed period of extended operations. The supplemental analysis shall be made available to the IPRP and the Diablo Canyon Independent Safety Committee (DCISC) for review and comment.

8. **Future Entrainment Studies.** WITHIN 90 DAYS OF COMPLETING NEW ENTRAINMENT STUDIES, if any are required by the Regional Water Quality Control Board (Regional Board), PG&E shall submit all such entrainment studies, including all results, data, and other information used for the studies, to the Executive Director. The Executive Director may determine, on the basis of those studies and other related information, that DCPP operations are being conducted or having an effect on any coastal use or resource that is substantially different and more harmful than described and evaluated in this consistency certification and, as a result, is no longer consistent with the enforcement policies of the California Coastal Management Plan (CCMP), pursuant to 15 C.F.R. § 930.65. In that event, the Executive Director shall schedule a subsequent Commission hearing, with public review and comment, to seek authorization of remedial or other action to ensure consistency with the enforceable policies of the CCMP.

9. **Assumption of Risk, Waiver of Liability and Indemnity**. By acceptance of this permit, PG&E acknowledges and agrees (a) that the site may be subject to hazards from coastal erosion, storm conditions, wave uprush, and tsunami runup; (b) to assume the risks to PG&E and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (c) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (d) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards. The terms in this special condition shall continue to apply even if the CDP authorization becomes ineffective.

10. **Liability for Costs and Attorneys' Fees**. PG&E shall reimburse the Coastal Commission in full for all Coastal Commission costs and attorneys' fees -- including (1) those charged by the Office of the Attorney General, and (2) any court costs and

attorneys' fees that the Coastal Commission may be required by a court to pay – that the Coastal Commission incurs in connection with the defense of any action brought by a party other than PG&E against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit, the interpretation and/or enforcement of permit conditions, or any other matter related to this permit. PG&E shall reimburse the Coastal Commission within 60 days of being informed by the Executive Director of the amount of such costs and fees. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission. The terms of this special condition shall continue to apply even if the CDP authorization becomes ineffective.

ADDITIONAL SPECIAL CONDITIONS FOR COASTAL DEVELOPMENT PERMIT

11. Final Breakwater Repair Plan

This coastal development permit (CDP) does not authorize breakwater repair activities not described in this CDP's application materials. No less than 120 days prior to the start of breakwater repair activities, PG&E shall provide, for Executive Director review, a Draft Breakwater Repair Plan. The permittee shall submit an application for a new or amended CDP for breakwater repair activities included in the Breakwater Repair Plan and not included in this CDP's application materials, unless the Executive Director determines that additional Commission authorization is not required.

No less than 90 days prior to the start of breakwater repair activities, PG&E shall provide a final version of the Breakwater Repair Plan for the review and approval of the Executive Director. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without Commission approval unless the Executive Director determines that Commission approval is not legally required.

12. Final Dock Replacement Plan

No less than 90 days prior to the start of dock replacement activities, PG&E shall provide a final version of the Dock Replacement Plan for the review and approval of the Executive Director. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without Commission approval unless the Executive Director determines that Commission approval is not legally required.

13. Development Responsibilities and Debris Removal

PG&E agrees to comply with the following construction related requirements for all project development that includes work in, or near, the marine environment:

A. No demolition or construction debris or waste shall be placed or stored in the water, or where it may enter sensitive habitat, receiving waters, or a storm drain, or be subject to wave, wind, rain or tidal erosion and dispersion;

B. Any and all debris resulting from demolition or construction activities, and any remaining construction material, shall be stored in a designated area with appropriate stormwater BMPs to prevent leaching of material into receiving waters. No such material may be stored onsite for more than 30 consecutive days of no demolition or construction activities. Dock demolition debris shall be removed from the water as quickly as possible in order to prevent the spread of invasive aquatic plant species, but in no case later than the end of each day;

C. Demolition or construction debris and sediment shall be removed from work areas each day that demolition or construction occurs and stored in a designated area with appropriate stormwater BMPs to prevent the accumulation of sediment and other debris that may be discharged into coastal waters;

D. Machinery or construction materials not essential for project improvements will not be allowed at any time in the subtidal or intertidal zones;

E. If turbid conditions are generated during inwater construction that exceed naturally occurring turbidity within the Intake Cove, PG&E shall install a silt curtain to control turbidity;

F. Eelgrass shall not be disturbed to the extent feasible. Anchors shall not be placed in mapped eelgrass beds;

G. Floating booms will be used to contain debris discharged into coastal waters and any debris discharged will be removed as soon as possible but no later than the end of each day;

H. Non buoyant debris discharged into coastal waters will be recovered by divers as soon as possible after loss;

I. All trash and debris shall be disposed in the proper trash and recycling receptacles at the end of every construction day;

J. The applicant shall provide adequate disposal facilities for solid waste, including excess concrete, produced during demolition or construction;

K. Debris shall be disposed of at a legal disposal site or recycled at a recycling facility. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is legally required;

L. All stockpiles and construction materials shall be covered, enclosed on all sides, shall be located as far away as possible from drain inlets and any waterway, and shall not be stored in contact with the soil;

M. Machinery and equipment shall be maintained and washed in confined areas specifically designed to control runoff. Thinners or solvents shall not be discharged into sanitary or storm sewer systems;

N. The discharge of any hazardous materials into any receiving waters shall be prohibited;

O. Spill prevention and control measures shall be implemented to ensure the proper handling and storage of petroleum products and other construction materials. Measures shall include a designated fueling and vehicle maintenance area with appropriate berms and protection to prevent any spillage of gasoline or related petroleum products or contact with runoff. The area shall be located as far away from the receiving waters and storm drain inlets as possible;

P. Best Management Practices (BMPs) and Good Housekeeping Practices (GHPs) designed to prevent spillage and/or runoff of demolition or construction-related materials, and to contain sediment or contaminants associated with demolition or construction activity, shall be implemented prior to the on-set of such activity;

Q. Any wood treatment used shall conform to the specifications of the American Wood Preservation Association for saltwater use. Wood treated with Creosote, CCA (Chromated Copper Arsenate), or ACA (Ammoniacal Copper Arsenate) is prohibited. No wood treated with ACZA (Ammoniacal Copper Zinc Arsenate) shall be used where it could come into direct contact with the water. All treated timber shall be free of chromium and arsenic; and

R. All BMPs shall be maintained in a functional condition throughout the duration of construction activity

14. Biological Resources Monitoring. NO LESS THAN 120 DAYS BEFORE STARTING MAINTENANCE OR REPAIR ACTIVITIES AUTHORIZED BY THIS CDP, PG&E shall submit, for the review and written approval of the Executive Director, a final plan for all project development involving work in the marine environment, that includes:

A. **Eelgrass Protection:** No more than 60 days prior to the start of boat dock replacement activities within the marine environment, an independent third party shall perform an eelgrass survey that includes the full area of the proposed activities as well as a 150-foot wide buffer around it, and is carried out in full compliance with the California Eelgrass Mitigation Policy (CEMP)

(2014)[7] The results of the eelgrass survey shall be submitted for the review and written approval of the Executive Director no later than 15 days prior to the start of project activities. If the Executive Director determines that the survey shows eelgrass within 150 feet of the activities, two years of post-activity monitoring shall be carried out by an independent third party per the CEMP guidelines. This monitoring shall include a post-activity eelgrass survey carried out consistent with the CEMP guidance and completed no later than 30 days following project completion as well as two annual surveys completed thereafter during the eelgrass growing season (April through October). Survey reports shall quantify eelgrass areal extent, bottom coverage, and shoot density. Surveys shall include a detailed description of the survey coverage (e.g., number, location, and type of surveys), date of survey, and any interpolation methods used in the mapping. Transects, grids, or scale bars should be expressed in meters. All post-activity eelgrass survey reports shall be submitted to the Executive Director for review and written approval within 30 calendar days of survey completion.

Mitigation: Should the Executive Director determine that the post-activity eelgrass monitoring demonstrates loss or damage to eelgrass occurred, PG&E shall prepare an eelgrass mitigation plan consistent with the CEMP. The mitigation plan shall include provisions for achieving the required 1.2:1 mitigation ratio found within California Eelgrass Mitigation Policy. The mitigation plan, including the location of and authorization to use the mitigation site, shall be submitted to the Executive Director for review and approval no later than 60 days prior to the scheduled commencement of the mitigation work. Implementation of the mitigation plan shall require an amendment to this permit or a new coastal development permit unless the Executive Director determines that no amendment or new permit is legally required.

B. **Black Abalone:** PG&E shall conduct a black abalone survey where project activities associated with boat dock replacement and east breakwater repair will occur within the marine environment, as well as rocky (or otherwise hardscaped) areas and intertidal areas within 10 meters (i.e., work area). The survey shall be completed in spring within 30 days prior to activities. The survey shall be completed by a National Marine Fisheries Service (NMFS)-qualified biologist visually on foot for intertidal areas located above the mean lower low water (MLLW) datum and by a diver for intertidal areas located below MLLW and for pilings proposed for removal. The survey results, including a map showing the locations of all black abalone identified during the survey within the work area and their maximum shell length to the nearest millimeter, shall be submitted to the Executive Director for review and approval no more than 15 days prior to commencement of activities. If any survey indicates the presence of black abalone within the work area, the

[7] https://media.fisheries.noaa.gov/dam-migration/cemp_oct_2014_final.pdf

survey report shall include a Mitigation Plan that identifies specific methods to remove and relocate black abalone to a suitable area.

C. **Invasive Species:** Not earlier than 90 days nor later than 30 days prior to commencement of project activities within the marine environment, PG&E shall undertake a survey of the project area and a buffer area at least 35 feet beyond the project area to determine the presence of invasive Caulerpa species. The survey shall include a visual examination of the substrate and inspection of construction equipment. In addition, the survey shall include an inspection of other non-native and invasive aquatic species.

Within fifteen (15) business days of completion of the survey, the permittee shall submit the survey:

I. For the review and approval of the Executive Director; and

II. To the Surveillance Subcommittee of the Southern California Caulerpa Action Team (SCCAT). The SCCAT Surveillance Subcommittee includes other resource agencies: the California Department of Fish & Wildlife, U.S. Fish and Wildlife Service, Army Corps of Engineers, and NOAA Fisheries.

III. To the California Department of Fish & Wildlife via the Suspect Invasive Species Sighting Report form at https://wildlife.ca.gov/Conservation/Invasives/Species/Caulerpa#report sightings in the event that Caulerpa is found within the project or buffer areas.

If Caulerpa species or other invasive aquatic species are found within the project activity or buffer areas, the permittee shall not proceed with the project until (1) the permittee provides evidence to the Executive Director that all Caulerpa and invasive aquatic species discovered within the project and buffer area have been eliminated in a manner that complies with all applicable governmental approval requirements, including but not limited to those of the California Coastal Act, or (2) the permittee has revised the project to avoid any contact with Caulerpa and/or invasive aquatic species. No revisions to the project shall occur without a Coastal Commission approved amendment to this Coastal Development Permit unless the Executive Director determines that no amendment is legally required.

15. Marine Wildlife Protection. No less than 120 days prior to the start of maintenance or repair activities authorized by this CDP, PG&E shall submit, for the review and written approval of the Executive Director, a final plan for all project development that involves work in the marine environment:

A. Use of a marine wildlife observer (MWO) during repair of the East Breakwater and replacement of the Boat Dock.. The MWO shall assure that all work vessels and project activities within the Intake Cove and adjacent to the East Breakwater maintain a distance of at least 150 feet from any marine wildlife species whenever feasible. The MWO shall identify any scenarios that require an additional observer and, in these cases, make recommendations as to where they should be placed to ensure complete coverage of the surrounding environment.

B. Specify that MWOs will issue a stop work order if project activities pose a risk to any marine mammals or sea turtles, or if any marine mammal or sea turtle enters the 33-foot exclusion zone around project activities and vessels.

C. Specify that MWOs shall have the appropriate safety and monitoring equipment adequate to conduct any project activities occurring at night (including night-vision equipment, when applicable). Night-lighting required for project activities shall be shielded and directed to the immediate work area but must be bright enough to ensure the MWO can effectively monitor, maintain navigational safety, and sustain the minimum distance of 150 feet from any marine wildlife species whenever feasible as required by Special Condition 8(a).

D. Specify that MWOs shall issue a stop work order if visibility is reduced to a degree that MWOs cannot perform observational duties. Project activities may proceed once viewing conditions improve and MWOs are able to monitor effectively.

E. During inwater work associated with repair of the East Breakwater and replacement of the Boat Dock, MWOs shall submit a daily sighting report to the Executive Director no later than noon the following day that shall be of sufficient detail to determine whether observable effects to marine mammals are occurring.

F. Work shall stop and the Executive Director of the Commission shall be notified within four hours, or as soon as practicable, if PG&E determines that any monitoring requirements in this special condition are unable to be effectively implemented. PG&E shall undertake development in conformance with the approved final plan unless the Commission amends this permit or the Executive Director issues a written determination that no amendment is legally required for any proposed modifications.

16. CPUC Approval. If CPUC approval is required prior to PG&E conveying offers to dedicate easements or recording easements specified in this CDP or selling lands subject to the right of first of refusal specified in this CDP, PG&E shall apply to the CPUC within 120 days of this CDP becoming effective for such approval in compliance with statutory and regulatory requirements. If the CPUC

does not issue any required approvals for such easement or sale, PG&E shall promptly notify the Executive Director and submit an amendment to this CDP to propose alternative mitigation.

17. **Federal Clean Water Act Approvals**. Within 30 days of receipt from the Central Coastal Regional Water Quality Control Board, PG&E shall submit to the Executive Director a National Pollution Discharge Elimination System ("NPDES") Permit for and Clean Water Act Section 401 certification relating to extended operations of DCPP. If the Central Coast Regional Water Quality Control Board (Regional Board) does not issue any required approvals, PG&E shall promptly notify the Executive Director and submit an amendment to this CDP.

18. **CDP Term**. This CDP authorizes extended operations at DCPP until October 31, 2029, for Unit 1 and October 31, 2030, for Unit 2, to coincide with the authorization that the California Public Utilities Commission issued on December 15, 2023 in Rulemaking No. 23-01-007. After October 31, 2030, the CDP authorization for all Project activities covered in this permit shall terminate; provided however, that the mitigation terms and conditions specified in Special Conditions 1 through 10 shall survive termination of this CDP. Notwithstanding the foregoing, if the Nuclear Regulatory Commission denies PG&E's license renewal application, this CDP authorization shall terminate upon that denial and the CDP authorization and, except as otherwise provided, all the CDP conditions shall be deemed ineffective. PG&E shall apply for an amendment to this CDP if it seeks to extend operations beyond the authorization dates specified herein and the California Public Utilities Commission has authorized such continued operations. PG&E shall submit such application by January 31, 2029.

ADDITIONAL SPECIAL CONDITION FOR CONSISTENCY CERTIFICATION

19. **Federal Consistency Authorization Term**. The concurrence in the consistency certification shall be authorized until November 2, 2044, and August 26, 2045, for DCPP Units 1 and 2, respectively, or until the license expiration dates approved by the NRC for the license renewal application if earlier than such dates. Notwithstanding the foregoing, the mitigation terms and conditions specified in Special Conditions 1 through 10 shall survive termination of this federal consistency authorization.

V. FINDINGS AND DECLARATIONS

A. Project Descriptions and Background

Project Location

Diablo Canyon Power Plant ("DCPP") is located within more than 12,000 acres of lands owned or controlled by PG&E and its subsidiary, Eureka Energy Company, along

coastal San Luis Obispo County (**Exhibits 1, 2** and **4**). These lands extend along about 14 miles of coastline between Port San Luis on the south to Montaña de Oro State Park on the north. Almost all of these lands are within coastal watersheds that drain to the ocean and roughly 4,000 acres, including the DCPP complex, are within the coastal zone (**Exhibit 4**). Approximately 600 acres are within PG&E's high security area around the DCPP facility. PG&E manages the remaining approximately 12,000 acres as an additional security buffer for the plant, but also for open space, agricultural and grazing operations, managed and open public access, cultural resource protection[8]. The San Luis Obispo County (County) certified LCP designates most of these lands as "Sensitive Resource Areas," including significant areas of native habitat that support a wide variety of plant and animal life, including some considered rare, endangered, threatened, or otherwise sensitive. The area also includes several significant historic, archaeological and tribal cultural resource sites.

The approximately 12,000 acres of Diablo Canyon lands encompass the following areas:

Parcel P
Parcel P is an almost 600-acre site on which the DCPP and its ancillary facilities are located. The site is owned by Eureka Energy, a subsidiary of PG&E, and leased to PG&E.

North Ranch
North Ranch includes approximately 4,600 acres and is owned by PG&E. It is bordered by Montaña de Oro State Park to its northeast and Parcel P and South Ranch to the south. Current uses of North Ranch are grazing and managed public access via the coastal Point Buchon Trail. The grazing is allowed via a grazing license with a local rancher. As a condition of the Coastal Commission's 2004 approval of a CDP for PG&E's construction and use of an Independent Fuel Storage Installation facility (A-3-SLO-04-035), PG&E developed and maintains the Point Buchon Trail, which is accessed through Montaña de Oro State Park. Trail access is currently limited to a maximum of 275 hikers per day, 5 days a week.

South Ranch
South Ranch includes approximately 5,000 acres and is owned by Eureka Energy, a subsidiary of PG&E, and leased to PG&E. It is bordered by Parcel P and North Ranch to its northwest and Wild Cherry Canyon to the east. Managed public access is allowed via the Pecho Coast Trail. The trail is only open on certain days and all hikes are guided by a docent. As a condition of the Coastal Commission's 2008 approval of a CDP for PG&E's steam generator replacement project (E-06-011),1,200 acres of South Ranch around Point San Luis are deed restricted, preventing future development.

[8] DCPP lands are typically referred to as three areas, North Ranch, located between Montana de Oro State Park and the high-security area, includes about 4,600 acres; the South Ranch area includes about 5,000 acres; and Wild Cherry Canyon includes about 2,400 acres.

Wild Cherry Canyon

Wild Cherry Canyon includes approximately 2,400 acres and is owned by Eureka Energy. It is located between Avila Beach and Port San Luis, with South Ranch to the west and the Irish Hills to the north and west. The legal status of Wild Cherry Canyon is disputed in pending litigation. Specifically, there is a dispute regarding whether the lands remain leased to HomeFed Corporation (a real estate developer) and other entities or whether that lease expired in 2019. In a decision issued on September 8, 2025, the court of appeal held that the lease remains in effect until 2067 and is subject to an option to renew for another 99-year term until 2166.[9] The decision is not yet final.

Project Background

DCPP is a 2,240 megawatt nuclear power plant located in San Luis Obispo County that supplies about 17 percent of California's zero-carbon electricity and 9 percent of its total electricity. DCPP is comprised of two reactor units that have been operating since 1985 (Unit 1) and 1986 (Unit 2). DCPP was originally licensed by the United States Nuclear Regulatory Commission (NRC) to operate until November 2, 2024, for Unit 1 and August 26, 2025, for Unit 2.

In 2016, PG&E announced a proposal to close and decommission DCPP at the expiration of its NRC operating licenses in 2024 and 2025. In January 2018, the CPUC approved PG&E's application to close DCPP and in March 2018, PG&E withdrew its license renewal application to the NRC for a licensing extension. In 2021, PG&E filed an application with San Luis Obispo County (County) for the proposed decommissioning of DCPP (DRC2021-0092).

While the County was conducting its CEQA review of the proposed decommissioning of DCPP, Senate Bill 846 (Dodd, Chapter 239, 2022) was enacted.[10] Senate Bill 846 calls for the extension of DCPP operations up to five additional years beyond its current license terms (i.e. until October 31, 2029 for Unit 1 and October 31, 2030 for Unit 2), under specified conditions and subject to various agency approvals. SB 864 also provides for $1.4 billion in loan financing to support the extended operations of DCPP. Furthermore, SB 846 directs that the five-year operational extension is exempt from CEQA review.

Following the enactment of SB 846, on November 7, 2023, PG&E submitted a license renewal application to the NRC to extend the current operating licenses for DCPP, as well as renewal of the authorization for receipt, possession, and use of nuclear material included in the operating licenses. PG&E's license renewal application to the NRC

[9] *Pacho Limited Partnership*, et al. V. Eureka Energy Co., Cal. Court of Appeal No. B332160 (Sept. 8, 2025).

[10] On July 28, 2023, the County published its draft EIR for the DCPP Decommissioning Project. The County's CEQA review is pending, and the final EIR as not yet been published.

seeks an extension period of 20 years.[11] SB 846 and the subsequent authorization by the California Public Utilities Commission, however, provides only for a five-year extension. Thus, any additional operating period beyond five years would require future state authorization. Furthermore, if PG&E obtains a 20-year license renewal from NRC, PG&E retains the option to seek NRC approval to cease DCPP's operations and terminate its license earlier than 20 years.[12]

Before submitting its application with NRC, PG&E also requested an exemption from NRC that would allow continued operations beyond the original license expiration dates while its new application is under NRC review.[13] On March 3, 2025, NRC granted this exemption request, conditioned on PG&E submitting a complete application by the end of 2023. On December 19, 2023, NRC determined that PG&E had submitted a complete application. Therefore, PG&E may continue operating DCPP until a NRC decision on that application is made. NRC's review of the application is pending, and its decision is now expected during the first quarter of 2026, following a federal consistency review by the Coastal Commission and Clean Water Act review by the Central Coast Regional Water Quality Control Board.

On December 14, 2023, the California Public Utilities Commission (Decision 23-12-036) conditionally approved extended operations at DCPP for five years pursuant to SB 846. One condition of that approval was that the NRC extend DCPP's operating licenses.

SB 846 also required the development of a DCPP Land Conservation and Economic Plan[14], which the California Natural Resources Agency prepared in 2023, in consultation with the California Coastal Commission, California State Lands Commission, Governor's Office of Business Administration, the State Water Resources Control Board, the California Public Utilities Commission and other state agencies. During the development of this plan, the agencies visited the Diablo Canyon lands, met with local elected officials, California Native American Tribes, and interested stakeholders in surrounding communities, and held a public listening session in San Luis Obispo. The plan outlines a vision for the roughly 12,000 acres of Diablo Canyon lands, focusing on pathways for long-term conservation, public access, tribal ownership, and clean energy innovation for Parcel P (where DCPP is located). The plan sets out values for permanent protection of ecological and cultural resources through

[11] Under NRC regulations, nuclear power plants may apply for an initial 20-year license extension. 10 C.F.R. § 54.31(b).

[12] *See* 10 C.F.R. § § 50.82, 20.1401.

[13] The NRC granted PG&E an exemption from 10 CFR 2.109(b) which states that if a nuclear power plant licensee files a sufficient license renewal application with the NRC at least 5 years before the expiration of the existing license, the existing license will not be deemed to have expired until the application has been finally determined.

[14] https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Transitioning-to-Clean-Energy/SB-846-Land-Conservation-and-Economic-Development-Plan.pdf

establishment of conservation easements on the Diabo Canyon Lands (North Ranch, South Ranch and Wild Cherry Canyon) before any land transfers occur. It also supports transfer of certain Diablo Canyon lands to tribal ownership as well as expanding managed access to trails and coastal areas while protecting sensitive habitats.

Consistency Certification Project Description
PG&E's consistency certification reflects its proposal and application to the Nuclear Regulatory Commission for renewed operating licenses to allow an additional 20 years of operations. For DCPP Unit 1, this proposed relicensing would extend the operating life from November 2, 2024, to November 2, 2044. For DCPP Unit 2, the proposed action would extend the operating life from August 26, 2025, to August 26, 2045. The primary development[15] and coastal resource impacts associated with the proposed relicensing would be to extend DCPP's use of up to 2.5 billion gallons per day of seawater for cooling the generating station. Without the proposed relicensing, this use of seawater and its adverse effects on marine life would initially be substantially reduced and then eliminated as PG&E instead starts the years-long decommissioning process required for nuclear facilities. PG&E has also proposed to the NRC several changes to DCPP's fueling system, including modifications to its spent fuel pools and a new fuel storage vault, either of which may constitute development requiring a CDP.

DCPP consists of two nuclear power units, Unit 1 and Unit 2, that together produce a total output of roughly 2,240 megawatts. DCPP uses a one-through cooling ("OTC") heat sink system that withdraws seawater from the Pacific Ocean via four circulating water pumps that provide a continuous supply of water used to cool the power plant condensers. The OTC seawater system is isolated from the separate closed loop water systems that are directly or indirectly exposed to DCPP's radiological components (see detailed description below). After the seawater has passed through the OTC system, it is discharged back into the Pacific Ocean via an outfall located just north of the facility (**Exhibit 3**).

PG&E's ongoing operations include regular upgrades and repair and maintenance activities necessary for safe and reliable operation of Units 1 and 2. These include inspection, testing, and surveillance to maintain the NRC's licensing requirements and to ensure compliance with environmental and public safety requirements. Certain activities can be performed while the reactors are operating while others require that the plant be temporarily shut down. Approximately every 18 months, one or the other of the

[15] "Development" requiring regulatory approval by the Commission is defined in Coastal Act Section 30106, and includes (in relevant part) "… 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…"

reactor units is shut down for scheduled refueling and for certain types of repairs or maintenance, such as replacement of a major component or cleaning of the seawater intake and discharge systems.

As part of its application to the NRC, PG&E included results of scoping and screening studies of the DCPP, including its mechanical systems, structures, electrical and instrumentation controls, reactor vessel, internals, reactor coolant system, auxiliary systems, steam and power conversion systems, containment structures, and component supports. PG&E determined that no major refurbishment-related development would be necessary to maintain DCPP operations during the license renewal period of 20 years, though it also identified necessary performance criteria and aging management programs needed for continued operations at a 40- to 60-year old facility. These aging management programs include prevention programs that prevent aging effects on components from occurring, mitigation programs that slow the effects of that aging, condition monitoring programs that inspect and examine for the presence and extent of aging, and performance monitoring programs that test the ability of a structure or component to perform its intended function. If these performance criteria and/or aging management programs identify the need for DCPP refurbishment that constitutes development under the Coastal Act or requires a license modification from the NRC, PG&E would be required to submit a new consistency certification (CC) to the Commission and/or coastal development permit (CDP) application to the Commission and/or San Luis Obispo County (County). For example, in July 2025, PG&E proposed to the NRC a modification to its spent fuel pools and addition of a new fuel vault, which may require further Commission review if PG&E decides to proceed with the work.[16]

During operations, DCPP's workforce includes approximately 1,633 employees, including 1,222 permanent full-time employees and an additional 411 supplemental staff who support plant operations. Prior to PG&E's 2024 initiation of relicensing, it was managing the DCPP complex in anticipation reaching the end of DCPP's existing operating licenses and starting the decommissioning process, which involved some attrition and decrease of overall staffing levels. Extended operations under relicensing will likely require a return to previous staffing levels. In addition, relicensing will involve refueling activities, which require additional staffing. Refueling and maintenance outages for the two DCPP units occur on a staggered 18- to 21-month cycle, usually with one schedule each year. The refueling outages generally last about 35 days and typically involve an additional 500 to 1,000 temporary contract employees onsite.

Use of Seawater

As noted above, DCPP uses a once-through cooling water system to cool its power generating units. It draws seawater from the Pacific Ocean through a shoreline intake structure in Diablo Cove and then discharges the heated seawater back to the ocean at a separate outfall location just upcoast from the facility. The seawater is first pumped through heat exchanging steam condensers located in DCPP's turbine building where heat is transferred from a closed loop system within the reactor complex to the seawater. The warmed seawater is then discharged back into the ocean through the shoreline outfall. The two power units have separate closed loop systems but share the

[16] See Nuclear Regulatory Commission's ADAMS Accession No. ML25178A617

DCPP intake and outfall structures. The overall intake flows total up to about 2.5 billion gallons per day, or about 1.75 million gallons per minute. As described below in Section D, this use of seawater results in a substantial loss of marine life productivity and represents the single largest coastal resource impact caused by DCPP operations.

This seawater volume also supplies the system's auxiliary saltwater system pumps that supply additional safety-related cooling flow to the heat exchangers and provide water for DCPP's desalination unit used for onsite industrial and domestic use. The transit time for seawater going through the system – from intake to discharge – is about five minutes. At full power, the water temperature is elevated up to about 20° Fahrenheit above ambient intake seawater temperatures, which is the maximum allowed by the facility's NPDES permit. Some additional water supply is provided by onsite groundwater wells, which serve reservoirs holding water for fire, safety, and other systems.

The intake structure includes traveling screens with a 3/8-inch mesh that limit the amount of larger fish and water-borne debris that can enter the facility, though they allow the entrainment of marine life smaller than the mesh size. During routine operations, the screens are rotated and washed by high pressure saltwater spray for 15 minutes every 4 hours. In high energy ocean swell events, and/or periods of increased source water debris loading conditions, the traveling screens can be placed into continuous operation at either low or high speed.

DCPP also generates various types of liquid, gaseous, and solid waste materials that are collected and treated on site to meet relevant regulatory standards. Radioactive materials are treated to reach levels "as low as reasonably achievable" and stored onsite or shipped to appropriate offsite facilities. DCPP generates about five to seven 55-gallon drums of solid radioactive waste each year, along with authorized volumes of gaseous waste that is filtered and released in a controlled manner to the atmosphere and liquid waste that is diluted and released as part of the seawater discharge.

Habitat and Species Management

PG&E has stated there are no expected upland developments associated with relicensing, other than the ongoing maintenance and management activities that are currently occurring. These include vegetation management practices and bird nesting management activities, as described below.

PG&E maintains a Transmission Vegetation Management Program to ensure the safe and reliable operation of DCPP's transmission facilities and power lines. This program includes a ROW Maintenance Program which is further partitioned into the Transmission ROW (T-ROW) Reclamation Program and the Transmission Integrated Vegetation Management Procedure (TIVM). While the T-ROW program focuses on removal of hazardous trees, incompatible vegetation, and border zone vegetation, the TIVM procedure focuses on promoting stable, low-growing plant communities that will resist invasion by tall-growing tree species. The TIVM procedure focuses on reclaimed ROW corridors. TIVM control methods can include a combination of chemical,

biological, cultural, mechanical, or manual treatments. PG&E maintains a guidance document that details BMPs designed to ensure that vegetation management activities (including under in-scope transmission lines) are performed in an environmentally sensitive manner to minimize environmental impacts. Site personnel are required to inform DCPP environmental operations prior to vegetation maintenance activities.

PG&E has also historically maintained a Nesting Bird Management Plan developed to avoid and minimize disturbance to nesting birds within PG&E's service area in compliance with applicable federal and state regulations. PG&E holds a Special Purpose Utility (SPUT) permit issued by the United States Fish and Wildlife Service (USFWS) for the emergency removal of nests from electric transmission lines and distribution systems to prevent electrocution of birds and associated power outages. Handling and transport of injured or dead birds was also authorized. This permit is applicable to all PG&E facilities including DCPP.

Coastal Development Permit Project Description

In addition to seeking the Commission's concurrence on its consistency certification for new NRC licenses, PG&E has also submitted an application for a coastal development permit ("CDP"). Unlike the consistency certification project description, the proposed CDP would authorize continued operations of DCPP for a period of five years past the current license term, as called for in SB 846 and recently approved the California Public Utilities Commission. Continued operation of DCPP, use of its seawater cooling system and maintenance of its safety zone meet the Coastal Act definition of development that requires a CDP. As described by PG&E in its CDP application, there are also additional activities and efforts for extending operations at DCPP that are related to, but independent of, the development and activities associated with NRC license renewal. PG&E has also included these activities in its CDP application: intake structure maintenance, forebay maintenance, intake structure bubble curtain, removal and replacement of the intake cove dock, and installation of additional rock and a cement walkway on a section of the Diablo Harbor's breakwater. These proposed activities are described further below.

Intake Structure Maintenance

Once per week, PG&E divers would manually clean the intake system bar racks using knives and nets to remove accumulated kelp and algal debris. Any of this material that is removed from the bar racks would be drawn into the DCPP Intake Debris System for processing, or the material would be gathered into a net and removed by a crane. Additionally, up to six times per year PG&E divers would use a fire hose to jet accumulated sand away from the intake bar rack and gate system.

Kelp Harvesting

Giant kelp (*Macrocystis pyrifera*) and bull kelp (*Nereocystis luetkeana*) growing within the DCPP intake cove and harbor can become dislodged from the seafloor and potentially threaten the mechanical integrity of the intake system at DCPP. To minimize the potential for kelp to affect the intake system, throughout the year PG&E would remove kelp within the intake cove including: whole-plant removal inside the 80 meter

by 80 meter exclusion zone directly offshore of the intake structure, harvesting kelp surface canopies at a depth of four feet below the water surface throughout the intake cove, selective removal of kelp located on the inside of the breakwaters, deposition of harvested kelp either behind a boom in the corner of the intake cove or depositing kelp offshore.

Forebay Maintenance

Refueling at DCPP occurs approximately every 18 months and prior to each refueling event, divers would remove sand within the Auxiliary Salt Water (ASW) forebay. The forebay is the entrance area to the intake structures and is located at the northern end of the Diablo harbor. Divers would use a hose connected to a nearby fire hydrant to remove sand by jetting it back towards the larger harbor area. Biofouling material such as mussels, barnacles and shell debris would also be scaped and cleaned away by drivers and then removed using a net and a vacuum truck.

Intake Structure Bubble Curtain

As described previously, the intake structure at DCPP includes sets of bars and screens to prevent debris and organisms from being drawn into the OTC system. During periodic times of extreme abundance, salps, a family of planktonic tunicates, and various species of jellyfish may pass through the traveling screens and pose a risk to DCPP's circulating water pumps. In response to these periodic risks, PG&E received Commission authorization (de minimis waiver numbers E-13-005-W, 9-15-0979-W, and 9-17-0945-W) to install and use, through August 26, 2025, a passive "bubble screen" system to deflect salps and jellyfish away from the plant's intake. As part of its current CDP application, PG&E proposes to continue using, as necessary, a bubble curtain consisting of an air compressor on land delivering air via a piping system anchored to the ocean floor.

Intake Cove Dock

DCPP's intake cove/harbor area has an existing boat dock within the southeast portion that measures roughly two hundred square feet and consists of a main float, three finger floats, two guide piles, two five-inch diameter shoreside pipe struts, a shoreside gangway, and stairs to the gangway. The existing dock is showing evidence of wave damage and age-related deterioration so PG&E proposes to replace the existing dock with a new dock of slightly larger dimensions. The new dock would consist of a post-tensioned float system with three finger floats and two guide piles. The existing boat dock floats, piles, and gangway would be removed and disposed of offsite.

East Breakwater Maintenance

The DCPP harbor's east breakwater consists of a rock revetment constructed from three different stone gradations and tribars. During winter storms in 2022 and 2023, the portion of the breakwater near the shoreline suffered damage and lost a significant number of boulders. Additionally, the concrete walkway portion of the breakwater in this area was damaged and lost. PG&E proposes to use a crane to restack existing, scattered rock and tribars on-site (approximately 5,600 cubic yards of material) to restore the original height and footprint of the breakwater. New, imported stone and tribars may be required depending on how much material is available on-site. Once the

breakwater is restored to its original cross-section, a 10,500 square foot cast-in-place concrete cap with hand railing would be constructed on top of the breakwater to facilitate pedestrian access across the breakwater.

Mitigation Proposal
PG&E, through communications with Commission staff on October 17, 2025, and volunteered conditions of approval has also voluntarily included within both its consistency certification and CDP application a proposal to mitigate for the adverse effects to coastal resources associated with continued operation of DCPP. This mitigation proposal is comprised of four parts: (1) a conservation easement to be established on certain PG&E owned lands on North Ranch; (2) a "right-of-first refusal" option that PG&E would purchase from its affiliate, Eureka Energy Company (Eureka), for South Ranch (which is owned by Eureka), ensuring that prior to any future sale or transfer of South Ranch lands by Eureka, the state, as well as local and federal government agencies, would first be provided an opportunity to purchase the land. After a certain period, non-profit land conservation organizations, including those of California Native American Tribes, would also be provided with a similar opportunity; (3) a public access trail easement for an expanded network of over 25 miles of new trail alignments on North Ranch and South Ranch and connecting the two, providing a series of shorter loop trails at either end of the property as well as a through-trail connecting Montaña de Oro State Park to Port San Luis; and (4) an offer of $5.6 million to accompany the public access trail easement for use planning, constructing, maintaining and managing the public access trails. PG&E also proposes to include both the existing Point Buchon Trail and Pecho Coast Trail within its the proposal to establish trail easements for the new public access trails, PG&E also proposes for o be included.

PG&E proposes to implement this mitigation in two phases, based on the operating duration of the power plant. If the plant operates for five years or less, the conservation easement on North Ranch would include approximately 1,100 acres, the right-of-first refusal option would be purchased from Eureka, and the trail easement would include roughly ten miles of new trails alignments. If the plant operates beyond five years, the conservation easement would be expanded to include approximately 2,200 additional acres and the trail easement would include over 15 miles of additional trails, including the through-trail across the Diablo Canyon lands.

Exhibit 5 shows the location and configuration of PG&E's proposed conservation easement and right-of-first refusal areas as well as the proposed trail alignments.

B. Coastal Commission Jurisdiction

The Nuclear Regulatory Commission (NRC) is currently reviewing PG&E's applications for new 20-year operating licenses for DCPP's reactor units. These licenses would allow DCPP to continue operating until November 2044 for Unit 1 and August 2045 for Unit 2.

This NRC renewal constitutes a federal license or permit pursuant to 15 CFR 930.51[17] and has the potential to affect coastal resources. As such, NRC licenses are subject to review under the California Coastal Management Program (CCMP). The enforceable policies of the CCMP are the Chapter 3 policies of the Coastal Act.

The proposed operation of DCPP for an additional 20 years is also subject to the Commission's review and approval of a coastal development permit, as it involves development in the coastal zone and within the Commission's original permit jurisdiction.

NRC's Exclusive Authority over Radiological Aspects of the Proposed Project
The NRC has exclusive jurisdiction over radiological safety aspects of DCPP and the adjacent independent spent fuel storage installation ("ISFSI"). Under federal law, the state is preempted from imposing upon operators of nuclear facilities any state regulatory requirements concerning radiation hazards and nuclear safety. The state may, however, impose state requirements related to other issues. The U.S. Supreme Court, in *Pacific Gas and Electric Company v. State Energy Commission*, 461 U.S. 190, 205 (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." Similarly, in light of the NRC's exclusive authority regarding radiological safety, the Coastal Commission may not regulate this issue in its federal consistency review under the federal Coastal Zone Management Act. Therefore, the Coastal Commission findings herein address only those concerns related to conformity with the applicable policies of the Coastal Act and the enforceable policies of the CCMP, and do not evaluate or consider nuclear safety or radiological issues.

Prior Commission CDPs relating to DCPP
The Coastal Commission has issued several CDPs for prior development projects at DCPP:

- In 1983, the Coastal Commission approved a CDP for the construction and use of a trainer/simulator building at DCPP (No. A-4-82-593). Accompanying that approval was a requirement for construction of the Pecho Coast Trail, which runs for approximately four miles from DCPP's southern entrance at Port San Luis to the Point San Luis Lighthouse. As part of that CDP, PG&E developed a public access plan for docent-led, day-use hikes and for funding by PG&E for trail maintenance and improvements. PG&E continues to implement this public access plan and manages maintenance and use of the Pecho Coast Trail.

- In 2004, the Coastal Commission approved a CDP for the construction of the ISFSI at DCPP for the secure storage of spent nuclear fuel in vertical casks on reinforced concrete pads (A-3-SLO-04-035). The purpose of the ISFSI was to

[17] https://www.ecfr.gov/current/title-15/subtitle-B/chapter-IX/subchapter-B/part-930

store radioactive waste safely onsite until it could be transferred to a more appropriate facility. Due to the continuing lack of a federal permanent repository for nuclear waste or other temporary storage sites, radioactive waste generated by DCPP operations remain onsite at the ISFSI. As a result of the loss of public access and recreational opportunities associated with the ISFSI and its surrounding security area, the CDP for its initial construction and use required mitigation for these impacts under the Coastal Act. Specifically, the CDP included conditions for the development and maintenance of public access trails on Diablo Canyon lands, including the approximately four-mile-long Pt. Buchon Trail, and for deed restrictions to protect that access, as discussed in more detail in Section D.

- In 2008, the Commission approved a CDP for PG&E's steam generator replacement project (E-06-011). Because the project would result in entrainment impacts continuing about ten years beyond when they would otherwise have ended, PG&E proposed, and the Commission approved, a deed restriction with conservation requirements over a 1,200-acre area of Diablo Canyon lands on South Ranch near Port San Luis. In addition, the CDP included a special condition that required PG&E to "submit a new coastal development permit application or amendment to [the] permit" if PG&E sought relicensing of DCPP in the future, as is the case now. (E-06-011, Special Condition No. 2.)

- In 2023, the Commission approved a CDP amendment for modifications to PG&E's ISFSI system (A-3-SLO-04-035-A1). The ISFSI modification would not result in any additional loss of access beyond what was already mitigated through the 2004 CDP for construction of the ISFSI (which had assumed the loss of access would continue in perpetuity). Thus, no additional mitigation was required. In addition, the CDP amendment term expires on December 31, 2030, and requires PG&E to apply for a further CDP amendment twelve months before the expiration to retain, remove or relocate the ISFSI. Thus, the term of the CDP authorization for the ISFSI coincides with the term of this present CDP application for continued operation of DCPP.

- In 2024, the Commission approved a CDP for dredging of sediment of the DCPP seawater intake cove/harbor, from which DCPP draws in cooling water for its operations (9-23-0599). The project did not cause adverse impacts to public access to the shoreline or recreation because the dredging was limited to an area where public access was already prohibited due to safety restrictions. Thus, no public access mitigation was required and protections were implemented to ensure adverse impacts to marine life and water quality were avoided.

C. Consultations and Other Agency Approvals

Nuclear Regulatory Commission ("NRC")
As discussed above, PG&E submitted a License Renewal Application to the NRC on November 7, 2023. On December 19, 2023, the NRC deemed the application complete and expects to act on the application by the first quarter of 2026, following a federal consistency review by the Coastal Commission and Clean Water Act review by the Central Coast Regional Water Quality Control Board.

In November 2024, the NRC published a draft Supplemental Environmental Impact Statement ("SEIS") for the proposed issuance of the operating license renewals for DCPP pursuant to the federal National Environmental Policy Act. NRC published the final SEIS in June 2025.

United States Army Corps of Engineers ("USACE"), National Oceanic Atmospheric Administration ("NOAA") National Marine Fisheries Service, United States Fish and Wildlife Service ("USFWS")
PG&E submitted a draft DCPP Decommissioning USACE Standard Individual Permit Application Package to the NOAA National Marine Fisheries Service, NRC, USACE, and U.S. Fish and Wildlife Service. The purpose of the submittal was to provide information to these agencies to assist them in determining the approach for the Section 7 Federal Endangered Species Act consultation process for DCPP license renewal. As of the date of this staff report, PG&E is still in the process of consulting with these agencies.

State Water Resources Control Board ("SWRCB" or "State Water Board")
The State Water Board administers the California Ocean Plan and federal Clean Water Act and the state's water quality standards. It also provides direction to the state's nine Regional Water Boards. The Board has also developed a Once-Through Cooling Policy meant to eliminate the adverse effects of once-through cooling on California's coastal waters. This 2010 Policy established a compliance schedule for each of the state's coastal power plants either to achieve "Best Available Technology" under Clean Water Act Section 316(b) by reducing their use of seawater by about 90% or to transition or retire their OTC systems by a specific date, most within 10 or so years of Policy adoption. The Policy also established an interim "in-lieu mitigation fee" in recognition that the relatively short-term marine life impacts occurring during this period could be addressed either through individual mitigation projects such as restoration or through payment by each power plant of a fee based on the amount of seawater used each year. The annual fees were to be compiled and used for various programs along the coast. This program, and Diablo Canyon's participation in it, is further described in Section D below.

Central Coast Regional Water Quality Control Board ("CCRWQCB" or "Regional Board")
The operating license renewal from the NRC triggers the requirement for a new Clean Water Act Section 401 certification from the CCRWQCB. The CCRWQCB is also in the

process of updating the National Pollutant Discharge Elimination System (NPDES) permit for DCPP and has not yet determined the full extent of changes the new permit will include relative to the 1990 NPDES permit (Order No. 90-09; NPDES Permit No. CA0003571), which has been administratively extended multiple times since its issuance in 1990. CCRWQCB anticipates having the hearing for both permits in February of 2026 and would release an initial draft NPDES permit for public review and comment in late 2025.

California State Lands Commission (SLC)
On January 5, 2023, PG&E submitted an application to the California State Lands Commission (CSLC) to amend Lease No. PRC 9347.1 for the continued operation and maintenance of DCPP Project Facilities located on state tidelands through October 31, 2030. On June 5, 2023, CSLC amended the Lease expiration dates to October 31, 2030, and amended the special provisions of the Lease.

California Public Utilities Commission (CPUC)
Senate Bill 846 requires, among other things, that the CPUC establish new retirement dates for the DCPP's Units 1 and 2. The CPUC issued a decision on December 15, 2023, in which it conditionally approved extended operations pursuant to SB 846 (CPUC Rulemaking No. 23-01-007). The decision authorizes extended operations until October 31, 2029 (for Unit 1) and October 31, 2030 (for Unit 2). The CPUC's decision is subject to the conditions that (1) the NRC continues to authorize DCPP operations; (2) the $1.4 billion loan agreement authorized by SB 846 is not terminated; and (3) the CPUC does not make a future determination that DCPP extended operations are imprudent or unreasonable. As set out in Special Condition 18, the CDP term likewise authorizes project activities until October 31, 2030. PG&E may seek an amendment to the CDP to extend DCPP operations beyond October 31, 2030 if the CPUC subsequently authorizes such continued operations. The Commission is evaluating impacts, mitigation and alternatives in light of the 20-year term of the NRC license renewal period at issue in the consistency certification, and it is specifying conditions that would apply beyond 2030. The Commission's analysis based on information that is currently available and incorporates a range of conservative assumptions (i.e. assumptions that are more protective by capturing a higher estimate of impacts). If PG&E subsequently seeks a CDP amendment to operate DCPP beyond October 31, 2030, the Commission would also evaluate whether there are significantly changed circumstances that would require a regular (as opposed to immaterial[18]) CDP amendment and further environmental review. A regular CDP amendment may not be necessary if, for example, there are no new or additional significant impacts that the Commission did not already evaluate in its impact, mitigation, and alternatives analyses, or if there are no significantly changed circumstances requiring new environmental review.

Under Section 851 of the California Public Utilities Code, the CPUC has authority to determine whether to approve the sale or encumbrance (or other disposition) by a

[18] Title 14, Cal. Code Regs. § 13166.

public utility of property that is "necessary or useful in the performance of its duties to the public."[19] **Special Condition 16** requires PG&E to seek any required CPUC approval for the easements specified in this CDP and, in the event that the CPUC does not issue an approval, PG&E shall be required to apply for a CDP amendment to propose alternative mitigation.

Tribal Consultation
Pursuant to Section 106 of the National Historic Preservation Act (NHPA), the NRC provided consultation letters to the Barbareño/Ventureño Band of Mission Indians, Coastal Band of the Chumash Nation, Chumash Council of Bakersfield, yak tityu tityu yak tiłhini – Northern Chumash Tribe, Northern Chumash Tribal Council (NCTC), Salinan Tribe of Monterey & San Luis Obispo Counties, Santa Ynez Band of Chumash Indians, and the Tule River Indian Tribe.

As part of its review process for the proposed license renewal and consistent with the August 2018 California Coastal Commission Adopted Tribal Consultation Policy, Commission staff reached out to Tribes with potential cultural connection to the project area, as indicated by the list provided to Commission staff by the Native American Heritage Commission. Consultation invitations were emailed and mailed to the Coastal Band of the Chumash Nation, Chumash Council of Bakersfield, yak tityu tityu yak tiłhini – Northern Chumash Tribe (ytt), Northern Chumash Tribal Council (NCTC), Salinan Tribe of Monterey & San Luis Obispo Counties, Santa Ynez Band of Chumash Indians, Tule River Indian Tribe, and the Xolon-Salinan Tribe. Commission staff received responses from ytt, the Santa Ynez Band of Chumash Indians, and the Xolon-Salinan Tribe. In their responses, the ytt requested formal consultation while neither the Santa Ynez Band of Chumash Indians nor the Xolon-Salinan Tribe requested consultation. A summary of Commission staff's consultation with the ytt is included in the Cultural Resources Section of this staff report along with a description of the cultural setting of the Diablo Canyon lands.

California State Coastal Conservancy
The California State Coastal Conservancy (SCC) is in the early stages of a Diablo Canyon Land Conservation Planning project, with participation from the California Natural Resources Agency and state and local agencies, tribal entities, community groups, and other stakeholders. This project is described as follows on SCC's website:

> Beginning in 2026, SCC and community partners will be embarking on a process to plan for future land conservation and public and tribal uses of the [Diablo Canyon lands] in collaboration with tribes, states and local agencies, and community groups. The project includes the preparation of technical assessments of the property's significant natural, biological, and cultural resources, topography, geology, hazards, and other relevant property attributes, and identification of potential trail routes based on these assessments. The project also includes

[19] In addition, CPUC Decision No. 20-05-053 (June 1, 2020) in CPUC Proceeding No. 19-09-016 requires CPUC approval for PG&E to sell or encumber assets exceeding $5 million in value.

> conducting extensive tribal consultation and a robust community engagement program to guide the community in developing plans for the long-term ownership, use, and management of the DCL. It is expected the project will take up to five years to complete given the scope of work and the need to provide the community and tribes with adequate time to fully participate in the planning process.[20]

Funding for this project was provided through a $5 million General Fund appropriation specifically identified for land conservation planning of the Diablo Canyon lands. Use of these funds to hire a consultant was approved by the SCC in February of 2024 and initial efforts to collect baseline information on the lands have begun. As part of the staff recommendation to authorize disbursement of the funds, SCC staff acknowledged that:

> San Luis Obispo County staff is currently in the process of preparing an Environmental Impact Report (EIR) for the planned decommissioning of the DCPP. The EIR and/or County permits may require PG&E to complete tasks related to planning for the conservation of the DCL as part of the decommissioning. In addition, Coastal Commission staff is drafting potential permit conditions associated with both the decommissioning and PG&E's Nuclear Regulatory Commission (NRC) license renewal application for extended operations of the plant. Any such conditions may require PG&E to take actions related to DCL land conservation planning. Based on the outcome of these regulatory processes, the Conservancy may modify the this project to avoid duplicating or subsidizing PG&E regulatory requirements.[21]

Coastal Commission staff have coordinated closely with SCC staff throughout the course of its CDP and CC review process and will continue to do so to help ensure that its planning process aligns with and contributes to the mitigation proposal developed by PG&E and memorialized in **Special Conditions 1 through 3**.

D. Marine Biological Resources

Section 30230 of the Coastal Act 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.

Section 30231 of the Coastal Act states:

[20] https://scc.ca.gov/dcl/
[21] State Coastal Conservancy, Staff Recommendation for Project No. 23-085-01, Feb. 15, 2024, p. 3.

> 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.

Summary

Key development activities resulting from DCPP's relicensing are those associated with its intake and discharge of seawater.[22] The primary adverse effects of that form of development are those resulting from the entrainment of marine life, which occurs when the power plant draws in seawater for cooling, and along with it, the myriad small marine organisms that make up the base of the ocean's food web. Diablo Canyon pulls in about 2.5 billion gallons of seawater per day,[23] which, as determined by entrainment studies conducted at the power plant, results in a loss of almost two billion identified larval fish each year, along with countless other organisms that have not been identified.[24] DCPP's entrainment studies, conducted in the late 1990s and updated in 2008-09, show that this substantial loss of marine life and biological productivity from the power plant's use of seawater is equal to that produced annually by up to roughly 9,360 acres of nearby ocean habitats – more than 14 square miles each year.

The loss of these public trust resources represents a significant reduction of biological productivity within dozens of miles along the coast. Along with these direct losses, the relatively massive scale of this rate of entrainment reduces the biological connectivity between nearby Marine Protected Areas and the offshore habitats of the Central Coast. As described below, there are no feasible cooling alternatives available to PG&E that would avoid or reduce this impact. To address these ongoing impacts expected to occur as part of Diablo Canyon's extended operations and to allow conformity to the CCMP

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[22] As noted above, the Coastal Act's Section 30106 definition of "development" includes "(in relevant part) "… 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,,," [emphasis added]

[23] For comparison, 2.5 billion gallons is more than five times greater than the amount of water the Los Angeles Department of Water and Power delivers to Los Angeles residents and businesses each day. 2.5 billion gallons per day over the course of a year equals nearly one cubic mile of ocean water.

[24] A 2005 independent scientist panel convened by the Regional Board estimated this annual loss to be about 30 billion organisms.

and Coastal Act marine resources protection policies, PG&E has voluntarily proposed a mitigation package, as discussed further below.[25]

> Note: Results of the entrainment studies referenced above are based on samples and analyses that are now up to a couple of decades old and may not fully represent currently existing conditions. Conducting new studies can take up to two years. In early 2024 at the beginning of the Commission's review of PG&E's application for federal consistency, Commission staff informed PG&E that, in order to facilitate staff's expedited review consistent with the intent of Senate Bill 846, staff would rely on these previous studies unless PG&E conducted, or the Regional Water Quality Control Board (Regional Board) required new entrainment studies. To date, neither have occurred, so the Commission is therefore using the previous studies to evaluate DCPP's ongoing impacts and determine necessary mitigation. The Regional Board may later require new entrainment studies in the future. As such, **Special Condition 8** requires, in that event, any new entrainment studies shall be submitted to the Executive Director for review. If the Executive Director determines, on the basis of those studies and other related information, that DCPP operations are being conducted or having an effect on any coastal use or resource that is substantially different and more harmful than described and evaluated in these findings, the Commission has legal authority to pursue remedial action or other action to ensure consistency with the enforceable policies of the CCMP pursuant to 15 C.F.R. § 930.65.

Importantly, even though the data used herein are not current, the methods used to calculate the type and scale of entrainment impacts have advanced over the past several decades and may easily be applied to the existing data, as has been done in these findings. For example, and as described below, the initial calculations for the late 1990s data showed an impact of roughly 5,000 acres while the updated and current methods show impacts of over 9,000 acres.

The discussion below describes the methods used to determine the type and scope of DCPP's entrainment impacts, describes alternatives considered for avoiding or reducing those impacts, and evaluates the types of mitigation suitable to compensate for those impacts. As detailed below, Commission staff evaluated potential mitigation options for DCPP including creating artificial reefs in nearby waters, restoring nearby estuarine or nearshore habitat, establishing conservation easements over nearby intertidal, shoreline, and associated upland areas, establishing marine reserves, and payment of mitigation fees.

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[25] Diablo Canyon's thermal discharge has also caused substantial marine life impacts in an area estimated to extend along about a mile of nearby intertidal and nearshore habitat. The discharge is regulated through a 1990 NPDES permit issued by the Regional Water Quality Control Board ("Regional Board"), with alleged violations addressed through a 2021 settlement agreement between the Board and PG&E. *People of the State of California v. Pacific Gas and Electronic Company*, San Luis Obispo County Sup. Ct. No. 21CV-0111 (Consent Judgment filed May 25, 2021). As noted above, the Regional Board is reviewing a proposed update to the existing NPDES permit, with a decision expected in early 2026.

However, not all of these options are available and/or suitable. Of these, the most immediately available and beneficial mitigation approach would be the establishment of conservation easements for the permanent protection of Diablo Canyon lands because such easements 1) would result in both direct and indirect benefits to the marine habitat areas affected by Diablo Canyon's intake, 2) can be implemented relatively quickly, 3) have benefits that would be sustained long into the future, and 4) would provide additional and concurrent benefits to other aspects of water quality, such as reduced erosion and sedimentation, as well as other marine resources, including protection of relatively pristine tidepools and other intertidal areas. Easements and the resulting land protection would also provide benefits to other coastal resources, such as upland ecosystems, and public access and recreation, and would result in protection of public trust values and resources. Further, protection of the Diablo Canyon lands has long been identified – and recently reconfirmed in the California Natural Resources Agency's May 2023 Diablo Canyon Power Plant Land Conservation and Economic Development Plan - as a broadly held priority for the local community and key stakeholders.

While artificial reefs and estuarine habitat restoration could provide more in-kind mitigation benefits, such efforts would be likely to take many years to design, site, and construct, and would also require extensive monitoring to ensure they are progressing towards and eventually achieving expected functions and values to adequately compensate for the lost marine life productivity. Additionally, because the nearshore waters off of Diablo Canyon already include extensive areas of rocky reef habitat, it is not clear that there is sufficient area nearby to construct the hundreds of acres of artificial reefs that would be needed as compensatory mitigation. Similarly, and regarding estuarine restoration, the nearest area providing the scale needed to address the impacts would be Morro Bay. However, almost all of this estuary is already protected and not available for mitigation purposes and, like artificial reefs, it would take several years to identify sites, produce restoration plans, and implement any proposed mitigation. Further, even once such restoration projects are implemented, they would not be guaranteed to succeed. Direct mitigation through habitat restoration on the scale that would be needed to fully offset the adverse impacts to marine life and productivity resulting from DCPP operations has neither been attempted nor demonstrated to be successful.

Background

In the marine environment, adult individuals of many species are often observed at some distance from where they originated or were spawned. This is because most marine species have a "planktonic phase" in which they drift, often as eggs or tiny larvae, with the ocean currents for days to weeks before settling out to develop further and to grow to their adult stage at a particular site or home range. This characteristic, along with the predominant southward flowing current that extends along California's coastline, was fundamental to the interconnected "stepping stone" design integrated into California's network of marine protected areas wherein species could spawn in one protected area and then drift with the current to settle out and inhabit the next protected areas to the south, thus helping to ensure the continued presence of key marine

species and to sustain their populations. As a result, the removal of large numbers of planktonic organisms, eggs, and larvae from a particular location will not always be readily noticed as a decline in adult species at that location but will instead manifest down-current and over a broader region as the supply of new recruits to that area is reduced. The thriving marine habitats in the immediate vicinity of DCPP are thus in substantial part a product of similarly thriving marine habitats upcurrent to the north, along the Cambria, San Simeon and Big Sur coastlines and are meant to be a contributor to marine habitats further south along the coast.

Diablo Canyon is the largest of the few remaining California coastal power plants that use seawater to cool their generating units. These "once-through cooling" ("OTC") systems typically bring in hundreds of millions of gallons per day of seawater for cooling, which results in essentially 100% mortality to all the small organisms that are "entrained" – i.e., pulled in along with the water and killed due to changes in pressure, temperature, and other stressors. These organisms include fish eggs and larvae of up to dozens of different species that have not yet grown to a stage where they can resist or swim away from the pull of an intake. These planktonic organisms, along with the other forms of plankton for which seawater serves as habitat, constitute the base of the food web in California's coastal waters. The loss of these organisms can represent a substantial adverse impact to the productivity of the state's nearshore waters and to the public trust uses these waters support. For Diablo Canyon, these impacts include the loss of about two billion identified organisms (and a multitude more of unidentified organisms)[26] each year representing about 14 square miles of lost biological productivity from the nearby waters in which these eggs, larvae and planktonic organisms originated.

Diablo Canyon's OTC system also causes marine life impacts due to the thermal effects of its discharge. As seawater goes through the OTC system, it picks up heat from the power plant's power generating system and is discharged at up to about 20 degrees Fahrenheit higher than the ambient temperature of the ocean receiving waters. This temperature difference can cause additional marine life mortality and can modify the habitat structures and mix of species in the nearshore environment. However, the Regional Board's approval of Diablo Canyon's NPDES permit allowed for this 20-degree temperature difference, and this specific water quality threshold applies under Section 30412 of the Coastal Act.

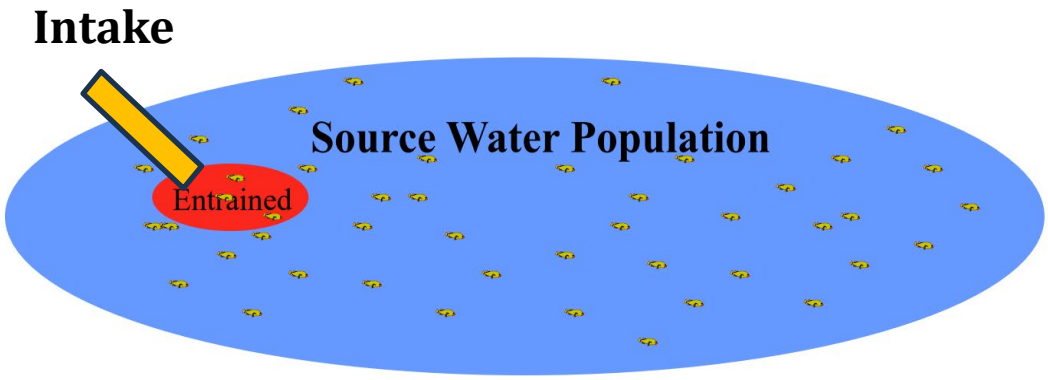
California state resource agencies, including the Commission, generally use two main methods to calculate the type and scope of the losses resulting from entrainment – the Empirical Transport Model ("ETM") along with the Area of Production Foregone ("APF") calculation. Together, these methods are used to estimate the extent of lost marine life productivity and to help identify the types and scale of mitigation needed to compensate for these losses. These two methods are particularly applicable when evaluating

[26] The organisms sampled and identified during entrainment studies generally represent just a small percentage – no more than 5-10% at most – of all the organisms that are subject to entrainment.

marine life effects under Coastal Act Sections 30230 and 30231, which require that marine productivity be maintained and sustained.[27]

The ETM method is used to determine what proportion of marine organisms from throughout a source water body ("SWB") are actually entrained (see Figure 1). An SWB is the area of estuarine or ocean waters in which organisms that could be entrained originate.

Figure 1: Conceptual Representation of Proportion of Entrainment from a Source Water Body



The extent of an SWB varies by species and is based on the velocity of ocean currents and on the number of days each species requires to grow to a stage that it can resist the pull of an intake (known as "larval duration" in the ETM calculations). For example, if the larvae of a particular species take five days to grow large enough to swim away from the pull of an intake, the SWB is based on how far five days of currents would carry those larvae to the intake. A 0.5 mile per hour current speed over five days would result in an SWB length of about 60 miles. The width of an SWB depends on water depth, the types of habitat in the area, and other characteristics. Different species have different SWBs due to differences in growth rates, types of habitats used, and other factors. In most instances, an intake will pull in a relatively small percentage of all the organisms within a SWB, though a small percentage from a large SWB can result in a substantial loss of organisms and productivity (see additional detail below). The individual SWBs identified in an entrainment study for specific species or groups of species can then be averaged to provide an overall SWB or can be grouped to identify the expected impacts to particularly important species or to a particular type of productive habitat. For example, an overall SWB can be calculated for just those species dependent on rocky reef habitat.

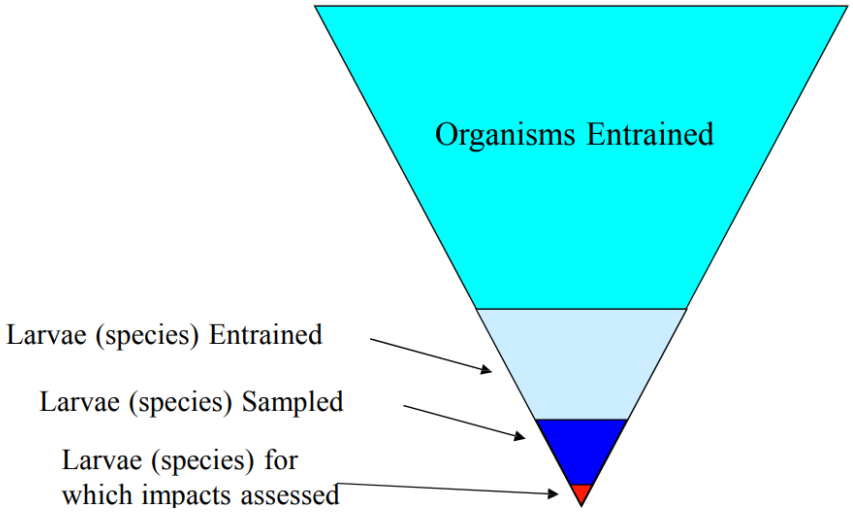
An important consideration in ETM/APF studies involves determining which species to include in the calculations. Open water intakes indiscriminately pull in nearly all

[27] The Commission has previously relied on the ETM/APF approach in several projects, including CDP application numbers E-06-013 (2008 Poseidon - Carlsbad), E-12-005 (2012 PG&E - high energy seismic testing), 9-21-0488 (2022 Poseidon – Huntington Beach), 1-21-0653 (2024 Humboldt Bay Harbor and Recreation District), and several power plant siting reviews including number 00-AFC-13 (Huntington Beach Generating Station) and 00-AFC-12 (Morro Bay Power Plant).

planktonic species in an area, which can include dozens or hundreds of species at any given location. Rather than calculate the impacts to all these species, the studies calculate the impacts to just a few that are meant to serve as "surrogates" for the other dozens or hundreds of species. These surrogate species usually include the most prevalent species sampled, species of commercial or recreational interest, and those with known ecological importance or that represent a particularly important habitat association.

The surrogate species generally represent a very small percentage of all the organisms subject to entrainment. Figure 2 below provides a conceptual illustration comparing the total number of organisms entrained, the total of those that are larval species and that are sampled, and finally those for which calculations are done to assess the impacts to the rest of these organisms. The calculations and findings for these surrogate species are considered to apply to the full range of entrained species – for example, the mitigation developed to compensate for the loss of productivity from the surrogate species is meant to compensate for all the entrained organisms. This "surrogate" approach is used to make up for the lack of information we have about the life histories and population dynamics of the majority of species that are subject to entrainment in California's waters.

Figure 2: Conceptual Representation of Total Entrained Organisms Compared to Surrogate Species



From Raimondi, Variation in Entrainment Impact Estimations Based on Different Measures of Acceptable Uncertainty, for California Energy Commission, 2011.

Most intakes pull in a relatively small percentage of all the organisms in a SWB that have the potential to be entrained. That percentage of each of the surrogate species is known as Proportional Mortality ("P_M"). Multiplying the P_M of each species by the area of its SWB results in the Area of Production Foregone ("APF"), which represents the number of acres within an SWB that would be needed to replace the amount and type of that species' productivity lost due to entrainment each year. Although the P_M values used to calculate APFs are most often fairly small, those small values, when multiplied by a large SWB, can result in a large APF and represent a substantial loss of marine

life. For example, a species with a P_M of just two percent in an SWB of 10,000 acres results in an APF of 200 acres.

A fundamental aspect of the ETM/APF approach and one that differs from most other ways to evaluate the impacts of development is that it focuses on lost productivity rather than the loss of habitat (other than seawater, which itself is considered habitat). ETM/APF identifies the type and scale of impacts resulting from lost marine life productivity and the amount of mitigation needed to replace that productivity. It acknowledges that even though OTC systems and entrainment do not remove actual areas of reef or intertidal or other nearshore habitats, they remove part of the productivity from these habitats, which in essence makes those habitats functionally smaller. It is analogous to having a 100-acre forest in which someone is continually removing 10% of the productivity of that forest – e.g., removing 10% of the bird eggs, larval insects, new tree leaves, etc. - and thereby shrinking the area's food web and ecological benefits so that it functions instead as a 90-acre forest.

Once APFs are calculated for each of the surrogate species, they can be combined and averaged to provide an overall APF for an intake. That overall APF can vary substantially based on the number of species included, the level of statistical confidence used in the calculation, whether the calculations are based on average or maximum larval duration, and other factors. For example, the 200-acre APF in the above example is based on 50% statistical confidence – i.e., there is a 50:50 chance that the 200 acres represents the full amount of lost productivity. When calculating an overall APF, the Coastal Commission and the State and Regional Boards generally use a 95% confidence factor, as is specified in the California Ocean Plan, and generally apply maximum rather than average duration.[28] Using these factors can substantially increase the calculated APF acreage though it also substantially improves the confidence that the impact is fully characterized and is not underestimated.

The APF can then be used as a "currency" to measure the productivity value of entrainment losses and to identify appropriate mitigation. For example, an overall APF of 200 acres indicates first, that the entrained organisms represent about 200 acres worth of lost biological production from the habitats within the SWB and also, that replacing this lost productivity could be accomplished by creating 200 new acres of those same types of habitats. However, it is generally not practicable to fully mitigate for these losses by creating new ocean areas consisting of the same mix of habitats within a SWB, so mitigation for entrainment almost always requires the use of "out-of-kind" mitigation. The typical out-of-kind options usually consist of creating or restoring a few selected habitats that are more highly productive than the average "mix" of habitats

[28] As part of its 2015 modification of the state's Ocean Plan, the State Board acknowledged that most seawater intakes, such as those used for power plant OTC systems, caused entrainment. However, the Board modified the Plan with new requirements just for intakes for seawater desalination facilities (including the 95% confidence level), largely because there was little expectation that new OTC systems would be proposed and that existing OTC systems would soon be phased out due to the Board's 2010 OTC policy. Since then, the Commission and Regional Boards have nonetheless considered the 95% confidence level to be "Best Available Science" and have applied that level to other facilities such as aquaculture and to outfalls from various facilities.

within the SWB. That is, rather than attempting to re-create the full suite of habitats where entrained organisms originate – e.g., sandy seafloor, reefs, kelp forests, estuarine wetlands, muddy benthic areas, and others -- mitigation usually focuses on creating or restoring just the most biologically productive habitat types. Although this does not fully mitigate for the losses of all the types of entrained species, it allows the overall amount of lost productivity to be replaced in a smaller and more productive area. For example, if the rocky reef habitat within an SWB is five times more productive per acre than the SWB's average productivity per acre, an artificial reef of about 40 acres could roughly replace the amount of productivity lost from the above 200-acre APF. This replaced productivity would not be entirely "in-kind," however, as a new reef would primarily benefit species that rely on reef habitat, not the full suite of entrained species. If necessary, the APF can also be used to identify an appropriate combination of different types of mitigation that may be needed to replace the productivity of important species that aren't associated with reef habitat – for example, a mitigation package can include some areas of artificial reefs as well as areas of estuarine wetland habitat restoration that would benefit species that spawn in or originate in estuaries.

Two entrainment studies at Diablo Canyon – conducted in the late 1990s and in 2008-09 - and the resulting ETM/APF calculations show that the power plant's 2.5 billion-gallon per day intake of seawater entrains several billion organisms per year and between 0.1% and 32% of the populations of surrogate species sampled within the SWB. The SWB for some of those entrained species extends up to about 75 miles upcurrent from the facility, with DCPP's overall average SWB covering about 92 square miles. As further detailed below, applying the APF calculations to the entrainment study results shows that DCPP's overall APF is about 9,360 acres each year, or about 14 square miles of nearshore habitat. This represents a substantial annual loss of marine life productivity and of public trust resources

Diablo Canyon Entrainment Determinations

In 1997-99, PG&E conducted a Regional Board-required entrainment study, along with a study on the effects of Diablo Canyon's thermal discharge.[29] This study was conducted over two years, rather than the typical one year for these types of studies, because researchers determined during the first year that it was a non-typical El Nino year that may not be representative, so data were collected during a subsequent and more typical year.[30]

[29] This entrainment study was conducted over two years; however, researchers determined during the first year of data collection that the sampling was being done during a non-typical El Nino year. They decided to continue sampling during an additional and more typical year and then generate separate ETM/APF calculations for each year. The APFs used from this study and referenced in these Findings are based on the more typical year's results.

[30] The study was able to calculate separate APFs for each year, which provided a useful comparison of entrainment effects during two different ocean regimes, with the El Nino year showing APFs about 25% less than those of the typical year. All subsequent references in these Findings to Board and Commission staff reviews refer to results from the non-El Nino year.

This initial study identified 15 taxa to serve as "surrogate" species,[31] though APFs could be calculated for just 12 of those taxa. The initial average APF for those taxa, at a 50% level of confidence, was about 5,000 acres.[32]

Over the next several years, the Regional Board evaluated whether it would be feasible for PG&E to avoid these impacts entirely through use of alternative cooling systems that would use little or no seawater, such as cooling towers, dry cooling, or through experimental methods such as fine mesh screens that could reduce entrainment. The Regional Board conducted that analysis under Section 316(b) of the federal Clean Water Act, which requires that cooling water intake structures for facilities with NPDES permits reflect the best technology available for minimizing adverse environmental impacts, including entrainment impacts. The Regional Board concluded, however, that alternative closed cooling systems were too costly (up to approximately $1.3 billion) to be feasible. The Regional Board 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 result in just shifting the impacts to a different location. The Regional Board considered the installation of fine mesh screens over the DCPP intake, but this, too, was considered infeasible, in large part because the technique was considered experimental at that time and the limited studies available then suggested the screens might not be effective, particularly given the large volumes of water being taken in by the plant. The Regional Board's overall conclusion from these studies was that there were no feasible methods to avoid or minimize the entrainment and thermal impacts associated with Diablo Canyon's cooling system.

In 2000, the Regional Board and PG&E also developed a proposed settlement agreement that was meant to resolve alleged violations relating to thermal impacts from discharges to ocean waters and to address other impacts, including entrainment. The settlement agreement was conditioned on the Regional Board approving an updated NPDES permit for PG&E. The Regional Board and PG&E continued to work on permit conditions for several years (see below) but the permit was never approved by the Regional Board in that timeframe. The proposed settlement included:

- Conservation easement: PG&E would place an easement over approximately 2,560 acres of Diablo Canyon lands along 5.7 miles of shoreline between Fields Cove and Montaña de Oro State Park.
- Project funding: PG&E would provide $4 million for marine resource protection projects in the Diablo Canyon area, based on proposals selected by the Regional Board.

[31] These taxa were selected using several criteria, such as being representative of a balanced, indigenous biological community, being commercially or recreationally valuable, being threatened or endangered, being critical to the habitat functioning of the area, and others. Of the 15 taxa, APFs were not calculated for crab and urchin taxa due primarily to processing issues.

[32] For comparison, the El Nino year's APF was 4,723 acres (at 50% confidence).

- Marine research: PG&E would make its marine laboratory facilities available to educational organizations for 10 years and provide $100,000 in initial funding and $5,000 per year for water and electricity costs.
- Black abalone restoration: PG&E would provide $350,000 to CDFW for culturing and out-planting black abalone in the area.
- Fish passage improvements: PG&E would eliminate a fish passage blockage on lower Coon Creek north of Diablo Canyon.
- Funding for Central Coast Ambient Monitoring Program ("CCAMP"): PG&E would provide $100,000 per year for 10 years to support CCAMP and would continue payments beyond that period if Diablo Canyon was still operating.

In 2003, the Regional Board was again presented with an analysis of the 1998-99 entrainment study, this time with an APF calculated at 6,043 acres (at a 50% confidence level) for the above 12 species, a proposed revision to the draft NPDES permit, and a modified settlement agreement, though the Regional Board did not make a decision at the hearing. At this and a subsequent May 2004 hearing, the Regional Board directed staff to further investigate available and feasible mitigation options. Regional Board staff followed up with additional analyses, including evaluations by independent scientists, to determine what mitigation options might be available and necessary to address losses of marine life resulting from Diablo Canyon operations.

In August 2005, the Regional Board continued its consideration of what mitigation options would be appropriate to address Diablo Canyon's adverse impacts to marine life. The Regional Board reviewed, but did not act on, proposals in a July 2005 paper, "Independent Scientists' Recommendations to the Regional Board Regarding 'Mitigation' for Cooling Water Impacts." This paper evaluated several types of possible mitigation, including those in the proposed settlement agreement, and concluded that the three best options were:

- Creating offshore reef habitat: creating between 210 and 500 acres of nearby artificial reef habitat. This acreage range reflects the scientists' low- and high-end estimates of how much natural rocky reef habitat was within Diablo Canyon's source water body and how many artificial reef mitigation acres (at 50% confidence level) would be needed to compensate for the lost productivity. This would provide the most direct compensatory mitigation for much of the entrainment losses from Diablo Canyon, particularly to those species dependent on rocky reef habitat.
- Establishing marine reserves: creating marine reserves would provide some mitigation for entrainment losses, but would primarily benefit species that are fished, commercially or recreationally, which constitute just a small proportion of all entrained species.
- Establishing a terrestrial easement: creating the proposed conservation easement along about 5.7 miles of Diablo Canyon's shoreline and upland areas would primarily benefit intertidal species by permanently limiting habitat degradation. The benefits of such an easement are difficult to quantify precisely compared to the impacts of entrainment but qualitatively, a terrestrial easement

covering intertidal, shoreline, and upland areas would include a direct nexus to the intertidal species adversely affected by Diablo Canyon operations. The easement would also be expected to prohibit most potential development, thereby preventing the types of pollutants and sediment associated with development on land from migrating across the landscape and entering and harming the nearby intertidal environment. Additionally, such an easement, while having mostly indirect value to the full suite of entrained species in the near term, would provide substantially greater value over time due to it providing permanent protection and benefits as compared to what was then expected to be up to twenty future years of impacts from intake operations. That is, even though the easement would provide less mitigation each year than needed to compensate for each year's entrainment impacts, that deficit would be made up for by some amount each year that the easement remained in place after the end of power plant operations.

The independent scientists' report also found that several of the previously proposed options were not likely to provide suitable compensatory mitigation. These included the fish hatchery, funding for CALCOFI research,[33] use of PG&E's marine labs, abalone research, funding for CCAMP, and funding for a State Parks docent program. The Regional Board made no decision on mitigation requirements at this 2005 meeting or subsequently, due in part to the State Board starting work on a policy for all once-through cooling systems in California (see below) but directed staff to obtain peer review on the mitigation paper and provide more information about the various mitigation options.

Also in 2005, and in recognition of the substantial adverse impacts caused by the once-through cooling ("OTC") systems at more than a dozen power plants along the coast, the State Board started work on a proposed policy to implement recent modifications to federal Clean Water Act Section 316(b) meant to reduce the effects associated with OTC systems. The State Board stated that the policy was needed to address "the ongoing, critical impact" to the State's ocean waters caused by these OTC systems while at the same time ensuring that California's electrical grid continued to function.[34] In 2010, the State Board adopted its OTC Policy for power plants, to be implemented through NPDES permits.[35] The OTC Policy provided compliance alternatives for power plants that are based on either the use of closed-cycle wet cooling systems or achieving a comparable level of reduction of entrainment of marine life as would be achieved by

[33] CALCOFI is the California Oceanic Fisheries Investigations, which is a long-term oceanographic and marine ecosystem monitoring and research program involving several academic organisations and state and federal agencies.

[34] See State Water Board's Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling – Final Substitute Environmental Document, May, 2010.

[35] State Water Resources Control Board, "Water Quality on the Use of Coastal and Estuarine Waters for Power Plant Cooling (Once-Through Cooling)," Resolution 2010-0020 (adopted May 4, 2010).

use of a closed-cycle wet cooling system.[36] As discussed further below, the State Board included requirements and options to mitigate the interim impacts of impingement and entrainment in the OTC Policy, including the option to make interim mitigation payments to the Ocean Protection Council and California Coastal Conservancy, until a facility retired its OTC systems under a deadline (or achieved BTA before the deadline).[37]

The State Board's work on this policy included State Board staff further assessing several entrainment methods and studies, including some regarding Diablo Canyon.[38] In 2007, the State Board evaluated Diablo Canyon's prior entrainment study, including calculating APFs at 95% certainty (as now specified in the California Ocean Plan for ETM/APF) for two groups of species.[39] This was done in part to identify how entrainment calculations could be improved so as to better characterize the type and extent of impacts and to provide a comparison of the overall APFs derived from using different species.[40] Results from these two groups – one including three of the species subject to entrainment and the other group including 12 species – showed APFs of 7,904 and 9,386 acres (or about 12 to over 14 square miles).[41] A subsequent review from 2011 using 95% certainty and maximum larval duration – i.e., the full length of time larvae are subject to entrainment – also identified an APF of more than 9,000 acres.[42] This use of 95% certainty and maximum larval duration is now considered the "Best Available Science" approach in Water Board and Coastal Commission entrainment evaluations and is specified in the California Ocean Plan.[43]

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[36] The Board's work also included a detailed analysis of potential cooling alternatives at Diablo Canyon, including moving elements of the cooling system further offshore, building land-based cooling towers, and others. Its conclusion was that alternatives were essentially infeasible due to high costs, permitting uncertainty, the length of time and degree of disruption involved to construct alternatives, seismic issues, and other considerations. See Bechtel Power Corporation, "Technologies or Modifications to the Existing Once-Through Cooling System For Diablo Canyon Power Plant," Report No. 25762-000-30H-G01G-00001 for the State Water Resources Control Board's Nuclear Review Committee, September 2014.

[37] Since 2010, most of the power plants originally covered under the OTC Policy have retired their cooling systems.

[38] The Board's policy development work also included the independent assessment of potential alternatives to DCPP's OTC system described elsewhere herein.

[39] Steinbeck, Hedgepeth, et al., Assessing Power Plant Cooling Water Intake System Entrainment Impacts, for California State Water Quality Control Board, January 2007.

[40] An overall APF will vary based on the number of species included in the calculation. Using fewer of the predominantly entrained species usually results in a higher APF than using more of those species. A typical approach is to include the predominantly entrained species that total about 90% of all sampled species – in some cases, that may be the top three species, in others, the top dozen or so species. PG&E's 2008 entrainment study collected samples from 80 separate taxanomic categories, with 18 of those taxa comprising the top 90%; however, PG&E calculated APFs for just seven of those taxa that comprised about 44.7% of the total samples.

[41] See Steinbeck, Hedgepeth et al., Jan 2007. APF range (at 95% likelihood of complete compensation, using from three to 12 species): ~ 3,200 to 3,800 hectares (which is equal to 7,904 to 9,386 acres).

[42] Raimondi, Peter, Variation in Entrainment Impact Estimations Based on Different Measures of Acceptable Uncertainty, for California Energy Commission, August 2011.

[43] Early studies used 50% certainty and average larval duration; however, the State Board, in implementing the Ocean Plan and its requirement to protect "all forms of marine life" now uses APFs

To confirm the greater than 9,000-acre APFs, Commission staff used the same data that were used in PG&E's first entrainment study, including the same taxa, P_M, and SWB calculations from the 1998-99 typical sampling year. As illustrated in Table 1 below, the mean APF for the 12 sampled taxa was about 6,040 acres at 50% confidence, 7,739 acres at 80% confidence, and 9,360 acres at 95% confidence.[44]

Table 1: Results from PG&E's 1998-99 entrainment study – Year 2 data (non-El Nino)

Taxa	P_M	SWB (in acres)	APF (in acres)
blackeye goby	0.0652	16245.7	1059.2
blue rockfish complex	0.0277	39,067.0	1082.2
Cabezon	0.0152	24,626.4	373.3
California halibut	0.0712	40,872.1	2910.1
clinid kelpfishes	0.2497	56,473.1	14101.3
KGB rockfishes	0.048	56,473.1	2710.7
monkeyface prickleback	0.1176	193,628.0	9218.9
painted greenling	0.0557	57,246.7	3188.6
sanddabs	0.008	35,327.9	282.6
smoothhead sculpin	0.2257	65,627.4	14812.1
snubnose sculpin	0.3102	67,690.3	20997.6
white croaker	0.0347	50,284.3	1744.9
Mean APF:			6040.2
Standard Error:			2018.6
APF at 50% confidence:			6040.2
APF at 80% confidence:			7739.1
APF at 95% confidence:			**9360.5 acres**

Note: These are the APFs calculated from the Year 2 typical (non-El Nino) year data and converted from the original hectares to acres.

calculated with a 95% level of confidence and maximum (between 95-99%) larval duration, usually measured in length.

[44] The confidence levels were determined using Excel's NORM.INV formula. The table also provides the standard error used in the calculations. In this statistical application, "standard error" quantifies the variability of the figures used to derive the mean. It essentially measures how much the sampled mean varies from the true population mean. A smaller standard error indicates that the sampled mean is relatively close to the population mean, while a larger standard error indicates the actual population mean is further from the sampled mean. These data show a relatively large standard error, which results from the substantial differences in the individual APFs that were the basis of the sampled mean – for example, Year 1's APFs for each species range from less than 200 acres to more than 21,000 acres.

Importantly, even with use of the 95% confidence approach, these APFs may still be underestimates. This is because intake velocities at DCPP are nearly four times higher than those currently used in U.S. EPA and State Water Board determinations that factor in swimming abilities of certain larvae and assume that some may escape entrainment. It is not clear how the DCPP entrainment study addressed the higher intake velocities at DCPP and corresponding lower likelihood of larval escape.[45]

These Water Board evaluations also included several economic analyses and cost estimates for potential Diablo Canyon mitigation projects. A 2005 report by the Regional Board's independent scientists estimated that the productivity losses from DCPP entrainment had a value of about $10 million per year (about $16 million in 2025 dollars).[46] For the initially calculated 5,000-acre APF, the Regional Board's 2005 study found that the cost of constructing 500 acres of artificial reef would be about $25 million (at $125 per acre in 2004 dollars). The 2006 evaluation then noted that construction of a 543-acre artificial reef would cost about $68 million, not including costs for ongoing monitoring and contingencies. An updated 2017 estimate put the cost for that size reef at about $90 million,[47] which would be about $118 million in 2025 dollars. As described below, and for comparison, since 2015 PG&E has paid a total of about $42.7 million in compliance with the OTC Policy interim mitigation requirements , which has gone towards several mitigation projects, but not of the type or scale needed to compensate for the level and extent of DCPP's adverse impacts to coastal resources under the Coastal Act and CCMP.[48]

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[45] DCPP's intake velocities are about 1.95 feet per second ("fps"), about four times higher than the current regulatory guidance of 0.5 fps being a maximum threshold that most motile organisms can swim away from. As noted above, the ETM/APF calculations are based in part on the length of time each larval organism is subject to entrainment – i.e., the age at which the larvae grow to a life stage where they can swim away from the pull of the intake velocity. For example, if individuals of a particular a species need 10 days to reach that stage, they would be carried by the current and subject to entrainment for those 10 days, after which they are presumed to be able to resist that velocity. If, for instance, the ambient ocean currents move at 0.2 miles per hour, the calculations for that species would reflect that larvae originating up to 48 miles away could be subject to entrainment (0.2 mph x 24 hours x 10 days = 48 miles), after which they could swim away from the intake pull. Although entrainment rates are primarily related to the volume of water drawn into an intake rather than its velocity, it is not clear whether or how the study calculations accounted for the additional time the individual species would need to grow to resist the higher DCPP intake velocities, which may have resulted in an underestimate in the entrainment rate.

[46] See Raimondi, P., G. Cailliet, and M. Foster, Draft DCPP Mitigation Recommendation. Diablo Canyon Power Plant Independent Scientist's Recommendations to the Regional Board Regarding Mitigation for Cooling Water Impacts, January 20, 2005.

[47] See August 23, 2107 Technical Memorandum – Diablo Canyon Nuclear Power Plant Draft Determination, from Dr. Pete Raimondi, UC Santa Cruz, to Rebecca Fitzgerald, State Water Resources Control Board.

[48] For comparison, state agencies calculated a combined intake and discharge APF for the proposed Poseidon Huntington Beach desalination facility of about two-thirds of a square mile (423 acres). The Coastal Commission denied that proposed project in part because there were insufficient mitigation opportunities in the area to compensate for that type and scale of lost productivity.

Recent Updates

PG&E provided two more recent updates to its prior entrainment work – a May 16, 2024 response to an NRC request for additional information about PG&E's relicensing application and a December 2024 summary for the Regional Board's upcoming review of PG&E's NPDES permit.[49] PG&E's May 2024 response evaluated and compared the two entrainment studies done in 1997-99 and 2008-09, though with some revisions. For the 2008-09 study, PG&E presented a modified version of the Regional Board's initial 5,000-acre APF calculation using fewer taxa – just seven, and only those associated with nearby rocky reef habitat.[50] This generated an APF of 690 acres at the 50% confidence level for those reef species. In reviewing this document, Commission staff applied the currently accepted 95% confidence level to these same seven those reef-associated taxa and calculated an APF of 1,411 acres – i.e., it would take 1,411 acres of new reef to compensate for the annual loss of productivity from these seven reef-associated taxa.[51] PG&E's December 2024 summary described PG&E's various entrainment and impingement studies, including some done as early as 1985 that do not use current ETM/APF methods. It concluded that PG&E's existing studies and monitoring requirements are sufficient and that PG&E's payment of the in-lieu mitigation fee provides adequate compensation for Diablo Canyon's entrainment impacts. However, this PG&E summary does not reflect several key considerations relevant to the Coastal Act's and CCMP's standard of review – in particular, it does not reference Coastal Act Sections 30230 and 30231 and their requirements regarding maintaining and sustaining the biological productivity of California's coastal waters. PG&E's summary also based its conclusions on a metric not supported by the ETM/APF approach – i.e., whether entrainment has affected adult populations of various species. PG&E concluded there have been no significant population changes but as described below, that conclusion is not supported by, and is an inappropriate use of, the ETM/APF approach.

The ETM/APF approach is meant to identify the loss of biological productivity resulting from entrainment, and to help determine how much and what types of habitat would be needed to replace that lost productivity. Instead, PG&E's summary cites results from the monitoring PG&E conducts as part of its NPDES permit and focuses on whether entrainment has resulted in significant changes to the nearby adult populations of various species. This is not appropriate for several reasons. First, PG&E's monitoring is not sufficiently comprehensive to identify the range of species whose populations may be affected by entrainment. PG&E's NPDES monitoring requirements are not focused on entrainment but are largely focused on identifying Diablo Canyon's thermal discharge effects and any substantial population changes within the nearby receiving

[49] Ramboll Americas Engineering Solutions, Impingement and Entrainment Review – Diablo Canyon Power Plant, prepared for PG&E, December 2024.

[50] As noted above, these taxa comprised about 44.7% of all organisms sampled, substantially less than the current guidance of including the top 90% of all those sampled. The 2008 study also used a substantially smaller source water body than the 1997-99 study.

[51] Applying this approach to the above-referenced 1998-99 study, including just the rocky reef-associated species (i.e., removing California halibut, sanddabs, and white croaker) from this list results in an even higher APF of 11,665 acres at 95% confidence.

waters affected by the discharge. Additionally, and as noted above, the adverse effects of entrainment can accrue over a lengthy stretch of coastline that extends well beyond PG&E's monitoring locations. Further, PG&E's conclusion appears to be based largely on its statement that entrainment at Diablo Canyon mainly results in the removal of "surplus population." This term is sometimes used in the context of evaluating commercial or recreational fisheries but it is not appropriate to apply in analyzing the biological productivity that serves as the basis of the marine food web. Many marine species have evolved to reproduce using mechanisms such as "broadcast spawning," where thousands or millions of larvae are produced and only a handful reach adulthood. The larvae that do not grow to a reproductive age are not "surplus," but are a part of the food web upon which other species rely on as food to grow and reproduce. One related consideration is that a primary reason the Commission and its partner agencies use ETM/APF and its lost productivity approach instead of population-based analyses is because there is limited scientific understanding of the population dynamics of most of the species in California's nearshore environment that are subject to entrainment. Nonetheless, we do understand generally that changes in marine life populations are affected by a wide range of factors – ocean temperatures, rates of upwelling and availability of nutrients, El Nino versus La Nina periods, etc., which makes it highly speculative to associate ETM/APF results with changes in population.

The ETM/APF approach also has an advantage over population-based approaches in that it provides an "absolute" metric – i.e., it identifies the number of organisms that are lost and would otherwise be present as part of the ocean's productivity if not for entrainment. With a population metric, there is no control group to provide a comparison of the adult populations that would be present with an intake system and the adult populations that would be present without an intake system – that is, we do not have a version of Diablo Canyon's source water body with the intake impacts occurring and another without those impacts occurring, so we cannot determine what the adult populations might be if not for DCPP. These shortcomings, along with the above-referenced limited understanding of population dynamics, prevent meaningfully associating ETM/APF results with population changes.

Finally, and as noted above, PG&E's summary references the federal Clean Water Act and PG&E's existing NPDES permit issued in 1985 but does not reference or evaluate conformity to the California Ocean Plan or to the Coastal Act. It does, however, reference PG&E's payments to the State Board's once-through cooling ("OTC") in-lieu fee program, which is further detailed below.

Short-term OTC mitigation

Since 2015, PG&E has partially mitigated for its marine life losses by paying into the State Board's once-through-cooling ("OTC") in-lieu fee program, which the State Board established as part of the above-referenced OTC policy. The State Board established this program as part of its 2010 adoption of a policy intended to achieve compliance

with Section 316(b) of the federal Clean Water Act[52] and Section 13142.5(b) of the state's water quality standards.[53] The policy required the state's 19 (at that time) coastal power plants to phase out their use of existing OTC systems due to the significant adverse marine life impacts resulting from coastal power plants using seawater to cool their generating units. At that time, the 19 coastal power plants were permitted to take in up to about 15 billion gallons per day, which, as acknowledged by the State Board, was contributing to ocean degradation, declining fisheries, and impaired coastal habitats.[54] The State Board established a schedule to phase out most of these facilities within about 10 years if they could not achieve compliance with Best Technology Available under Section 316(b) of the Clean Water Act.[55] The schedule assumed Diablo Canyon's use of cooling water would be phased out by December 2024 as its operating licenses approached expiration.

As part of this phase-out approach, the State Board developed an in-lieu fee that was designed in part to recognize the relatively short-term impacts expected over the few remaining years of OTC operations from these 19 power plants, which were located along the coast between Humboldt Bay and San Diego Bay, with many of them having overlapping Source Water Bodies. Rather than requiring each power plant operator to implement the kinds of mitigation projects typically used to address long-term impacts – such as creation, restoration, and long-term protection of marine or estuarine habitat – the State Board allowed power plant operators to pay an annual in-lieu interim mitigation fee based on the amount of intake water used each year. The combined fees would then be used to support various projects along the entire California coast intended to benefit the marine environment.

The State Board developed the in-lieu fee costs based on the APFs calculated for several previous power plant intake studies and the costs per acre of the mitigation projects resulting from those studies. Using the average per acre costs of those projects and prorating those costs based on seawater intake volumes, the State Board established a fee that would be assessed for each million gallons of seawater a power plant used each year. The first year's fee for entrainment impacts was $4.73 for each million gallons used by the power plants. For example, a power plant using 500 million gallons of seawater each day for a year would pay $863,225 into the fund (i.e., 500 x $4.73 x 365 days = $863,225). The policy also provided for an inflation adjustment each year, and included separate additional fees based on the amount of adult fish impingement that occurred each year at individual power plants, and a management fee that was 20% of the total of a power plant's entrainment and impingement fees. The

[52] Section 316(b) requires that cooling water intake structures be sited and designed using the best technology available to minimize adverse environmental impacts.

[53] Section 13142.5(b) requires power plants and industrial facilities using seawater for cooling use the best available site, design, technology, and mitigation measures feasible to minimize the intake and mortality of all forms of marine life.

[54] See Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling, Final Substitute Environmental Document, State Water Quality Control Board, May 10, 2010.

[55] For coastal power plants, Best Technology Available, or BTA, generally requires reducing their cooling water use by about 90%.

collected fees are then transmitted to the state Ocean Protection Council ("OPC") and the State Coastal Conservancy ("SCC") and used to fund various projects (see examples below).

For Diablo Canyon, the State Board established a somewhat lower entrainment fee - $3.99 per million gallons – in recognition of the uniqueness of its entrainment impacts. Diablo Canyon was the only one of the several power plants whose entrainment impacts were to a large number of rocky reef-related species, whereas the other plants adversely affected a higher percentage of species from other nearshore and pelagic habitats. The State Board's calculation of the fee for the other power plants was based largely on mitigation in the form of estuarine or wetland restoration projects, which were more expensive per acre to create and manage than artificial reefs. Although PG&E had not done an artificial reef mitigation project for DCPP, the calculation recognized that mitigation needed for DCPP was likely to take the form of artificial reefs, which were less expensive per acre than estuarine restoration, so the State Board used cost information from other artificial reef projects to develop a lower fee.

Based on that fee, between 2015 and 2022 PG&E paid between about four to five million dollars per year into the in-lieu fee fund for a total of $29.24 million. In 2024, the State Board amended the OTC policy to include a higher fee for entrainment impacts.[56] The current fee for Diablo Canyon's entrainment impacts is $12.51 per million gallons. As of 2025, most of these power plants have retired their OTC systems and no longer participate in the in-lieu fee program. Other than Diablo Canyon, most of the seven remaining plants operate at relatively low capacities – for example, when needed during summer energy peak demand days or when part of the state's typical electricity supplies are temporarily unavailable. The overall cooling water use has dropped from the initial 15 billion gallons per day allowed in 2010 to less than four billion gallons per day of actual cooling water use in 2025, with DCPP representing the majority of that use,[57] PG&E's payments have for several years represented the majority of each year's payments into the fund. For example, the most recent cumulative assessment (FY 22-23) for the seven power plants continuing to operate with OTC systems totals about $17.97 million, with Diablo Canyon providing about $12.9 million – just over 70% of that total. For just the entrainment fee, Diablo Canyon's FY 22-23 total was about $10.8 million, which is similarly about 70% of the total for all power plants.

The OTC Policy directs that the funds go towards any of four categories of projects that can be located anywhere along the coast: 1) enforcement of statewide Marine Protected Area ("MPA") regulations; 2) outreach and education to improve public understanding of MPA regulations; 3) research to help quantify the ecological benefits of MPAs; and 4) restoration projects that increase marine life associated with MPAs.

While these projects overall are beneficial in supporting marine resources, only a portion of them, and only a relatively small percentage of those funded by fees collected

[56] See State Water Board Resolution 2024-0014, April 17, 2024.
[57] See Final 2025 Report of the Statewide Advisory Committee on Cooling Water Intake Structures, prepared for State Water Resources Control Board, March 21, 2025.

from PG&E, provide the types of compensatory mitigation expected to address the substantial loss of marine life productivity resulting from Diablo Canyon operations. Most projects have occurred outside of DCPP's source water body, which results in displacement of marine resources in this region. The OPC's funding priorities have been to have about 30% of the overall funds it receives from the power plants go towards the fourth category - restoration projects. Thus far, funding from PG&E for restoration projects have gone towards restoring 42 acres of wetlands in Batiquitos Lagoon in San Diego County, restoring rocky intertidal vegetation at nine sites between Big Sur and San Diego County, planning estuarine restoration of about five acres on Villa Creek in San Luis Obispo County and conducting restoration planning for wetlands at Ormond Beach in Ventura County.

Funds required under the State Board's interim OTC in-lieu fee program are collected after-the-fact based on an accounting of a power plant's prior years' seawater use. As such, PG&E has yet to provide in-lieu fees for the extended operation of DCPP proposed within PG&E's consistency certification and CDP application.

Mitigation Needed for CCMP and Coastal Act Conformity

CCMP and Coastal Act sections 30230 and 30231 require that marine resources be maintained and enhanced, and that any use of those resources be done in a manner that sustains biological productivity. Section 30231 specifically requires that biological productivity be maintained by minimizing the adverse impacts of entrainment.

Mitigation Background

The Commission has previously considered and approved several types of mitigation to compensate for entrainment impacts. Prior to any assessment of compensatory mitigation, the Commission first looks to avoidance, and then minimization of significant adverse impacts. For coastal power plants, this involves assessing whether alternative cooling methods are feasible and less damaging. Once impacts have been avoided or minimized to the extent feasible, as is the case with DCPP, the next step is to adequately compensate for remaining impacts. Generally, the Commission considers compensatory mitigation strategies – the creation, restoration, enhancement, or preservation of habitats. Creation is where new habitat is developed at locations it has not historically existed, thus providing more area of a particular type of habitat. Substantial restoration focuses on areas where habitat exists in a degraded state and efforts generally involve alleviating the habitat from any stressors and actively facilitating the return of a full suite of self-sustaining ecological functions. Enhancement involves improving some limited ecological functions rather than fully restoring an area and is used where a habitat's starting condition requires only limited intervention to achieve a higher quality state (for example, removal of invasive plants from within an otherwise intact native habitat). Preservation simply involves placing an area under some form of permanent legal protection; however, it can also facilitate subsequent improvements through additional actions to create, restore, or enhance habitats within the preserved area.

As part of considering the appropriate mitigation strategies to be employed, the Commission generally favors “in-kind” over “out-of-kind” mitigation, at sites closer to the affected area rather than further away, and that which occurs before or concurrent with the impacts rather than after. In-kind mitigation is meant to replace any lost habitat functions and values with the same functions and values, usually through creating the same habitats as those adversely affected. This is sometimes not feasible and so out-of-kind alternatives are then considered. When this is the case, out-of-kind mitigation needs to have a nexus with the lost functions and values. This may involve creating or restoring a different type of habitat that is nonetheless important to the overall ecosystem within which impacts occurred or that is linked to related target resources. Mitigation may occur on-site or off-site though on-site replacement is strongly preferred as this usually maintains resource values within the same geographic or ecosystem unit. If mitigation is off-site, it is important to consider the ecological rationale for selecting off-site locations including their degree of physical displacement from the impacted area and the context of the site(s) within the broader landscape. Selecting strategies among these options also involves determining which are most likely to succeed and provide the expected benefits. Importantly, selecting a mitigation option can sometimes involve choosing one that may not be preferred in one aspect but is opportunistically preferable because of the chance it provides to protect a unique or valuable habitat that might otherwise be lost or adversely affected.

For entrainment impacts, fully in-kind mitigation is generally not feasible, as it is not practicable to expand the ocean and re-create all the types of ocean habitats from which entrained organisms originate. As described below, though, mitigation can sometimes take the form of creating smaller areas of highly productive marine habitats that will provide in-kind replacement of some types of the lost marine productivity.

Because these different mitigation strategies (creation, restoration, enhancement, and preservation) vary in the amount of ecological uplift and benefits to the landscape they provide, they are generally assigned different mitigation ratios. The ratios are meant to reflect the different levels of benefit they provide compared to the area impacted, to account for temporal losses in habitat function that occur between the start of an impact and the successful completion of a mitigation effort, to address uncertainties associated with future potential mitigation success, and to account for the improbability of a mitigation effort fully replacing all ecological functions and values acre-per-acre. The ratios also reflect the level of effort necessary for the mitigation to provide the expected level of benefits – i.e., mitigation that includes comprehensive performance standards, extensive monitoring and reporting requirements, contingency measures, and other components may have a higher likelihood of success. As starting points, the Commission generally considers ratios of about 3:1 for creation and substantial restoration – i.e., 3 acres of mitigation for each acre of impact – 6:1 for enhancement, and 10:1 for preservation, which are adjusted upward or downward to reflect site- and project-specific characteristics and challenges.

Because entrainment impacts usually occur to organisms that originate in a range of marine habitats – e.g., a mix of rocky reef, sandy bottom, kelp areas, and others – a

common approach is to require mitigation that has higher expected productivity per acre than that of the overall affected source water body. For example, creating an artificial reef that is five times more productive than the average productivity of a nearshore area containing reefs, sandy areas, muddy benthic habitat, etc. might be credited with a 1:5 ratio to reflect that every acre of new reef is expected to provide about five times the average per acre productivity of the mix of habitats in the source water body. This approach is further detailed below.

Potential Mitigation Options

As noted above, the Regional Board's independent science panel in 2005 determined that there were three main suitable and feasible mitigation options to address Diablo Canyon's entrainment impacts – artificial reefs, establishment of marine reserves, and conservation easements for adjacent terrestrial open space, each of which is described below. Another option described below, which the Commission has approved in other mitigation situations, is estuarine restoration.

Artificial Reefs

Creation of artificial reefs would likely provide the closest to direct and in-kind mitigation for at least some of the losses in marine biological productivity resulting from DCPP's operation, as many of the organisms identified in DCPP's entrainment studies are those associated with nearby reef and kelp habitat.[58] The Commission, in fact, has previously approved artificial reef mitigation for the adverse impacts of the intake and discharge system used at the San Onofre Nuclear Generating Station. That mitigation project, initially approved in the 1980s, included construction of more than 300 acres of new reef habitat; however, it involved significant challenges when the applicant was not able to meet success criteria for several decades.

Although Diablo Canyon's source water body already includes some areas of natural, highly-productive reefs, providing additional highly-productive artificial reefs would be beneficial.[59] Any new artificial reefs would be expected to be substantially more productive per acre than the overall average productivity within DCPP's source water body because that source water body includes large areas of less productive habitats, such as muddy or sandy bottom habitat. If new artificial reefs were five or 10 times more productive than the average productivity within the SWB - i.e., a 1:5 or 1:10 mitigation ratio – adequate compensatory mitigation to address the 9,360-acre APF would require from about 936.5 to 1,873 acres of new artificial reef habitat.

As noted above, the 2008-09 PG&E study resulted in a 1,411-acre APF (at 95% confidence) for reefs, which is within this same range. To provide a more recent comparison, this 1:5 to 1:10 range of ratios also encompasses a 2022 Santa Ana Regional Board determination that artificial reefs proposed as part of a Huntington

[58] The prior entrainment studies estimated that about 45% of the identified organisms subject to entrainment were associated with rocky habitat areas.

[59] There are few quantitative data characterizing the amount of reef habitat within the SWB. The 2005 independent science report estimated that there could be about 2,000 acres of reef within the approximately 92,000 acre SWB, or about 2% of the area.

Beach desalination facility could be credited at a 1:5.8 ratio – that is, each acre of new reef would mitigate for the entrainment losses in 5.8 acres of that facility's APF (see Regional Board Order R8-2021-0011). Although there are several significant differences between the SWB at the two locations,[60] applying this same ratio to DCPP's APF would result in the need for about 1,600 acres of artificial reef mitigation – again, a figure within the 1:5 to 1:10 range noted above. Together, these examples and comparisons suggest that PG&E would need to provide between about 936.5 and 1,873 acres of artificial reefs to compensate for DCPP's entrainment impacts.

However, it does not appear feasible to create this amount of new artificial reef habitat in close proximity to DCPP. An artificial reef of this size has never been constructed in California waters and it is not clear whether there are sufficient locations near Diablo Canyon to site these hundreds of acres of new reef and it would likely take substantial time and effort just to first determine appropriate locations, then to implement them, and then for them to successfully meet performance standards. For example, reef productivity is in large part of function of water depth and there may not be enough locations at the right depths – of between about 30 to 80 feet - to achieve those productivity levels. A significant portion of the nearshore area in the vicinity of the DCPP is included within the Point Buchon State Marine Reserve, an area in which construction of an artificial reef is prohibited. Further, even if properly sited and constructed, it is uncertain if the new reefs would be able to provide target levels of productivity and meet expected mitigation performance standards. If they are able to meet such standards, existing experience with other smaller reef projects in California waters suggests it would take many years. Although established under a different mitigation framework, the artificial reef created as compensatory mitigation for the San Onofre Nuclear Generating Station (SONGS) has yet to meet key performance standards and qualify for substantive mitigation credit even after nearly two decades. Additionally, the SONGS reef, although the largest of its kind, is only roughly half to one-quarter of the size as the one needed to offset DCPP's adverse impacts to coastal resources. Therefore, while artificial reefs might provide much of the mitigation needed to compensate for DCPP's adverse impacts on marine productivity, significant questions and uncertainty exist as to the feasibility and eventual success of this approach.

Estuarine restoration

Because it is also more biologically productive than the broad mix of marine habitats included within DCPP's SWB, restoration or creation of estuarine habitat also presents a potential mitigation option that would involve fewer acres than the full APF estimate. It would also provide a degree of in-kind mitigation, as some species identified in DCPP's entrainment studies are associated with nearby estuaries. Mitigating through estuarine restoration would also likely be somewhat less efficient than artificial reef creation, which would be reflected in the selected mitigation ratio. Using the same Huntington

[60] For example, the Huntington Beach APF included both entrainment and discharge-related mortality and the SWB included very little existing, natural reef compared to the DCPP SWB. The necessary amount of newly created reef was different, too – just a few dozen acres.

Beach example as above, the Regional Water Board found that estuarine restoration could be credited at a 1:4.5 ratio – i.e., every acre of successfully restored estuarine habitat would mitigate for 4.5 acres of the project's APF (as compared with an acre of artificial reef mitigating for 5.8 acres of APF). Applying this 1:4.5 ratio to DCPP's 9,360 APF would result in the need for approximately 2,100 acres of estuarine restoration.[61] However, similar to the issues raised above regarding artificial reefs, there do not appear to be sufficient opportunities nearby for restoring that amount of degraded estuarine habitat. The nearest estuary of size, Morro Bay, is about 2,300 acres in size but is already subject to numerous habitat restoration initiatives and has additional legal constraints as a result of its designation as a state marine reserve and state marine recreational management area. There may be other estuarine or wetland creation and restoration opportunities nearby that PG&E could implement to receive mitigation credit but these are not likely to provide more than a small portion of the total amount of mitigation needed to adequately address the scale of DCPP's impacts. Additionally, and similar to artificial reefs, even if suitable areas were found, restoration would take substantial time to implement and would carry significant uncertainty in terms of meeting required performance standards and achieving mitigation credit. For example, the two largest wetland mitigation projects required by the Commission - both of which are significantly smaller in size than what would be necessary to fully offset DCPP's adverse impacts - have both encountered a variety of challenges and have yet to be deemed successful. These projects, the SONGS wetland restoration project and Poseidon desalination wetland restoration project involve only about 440 acres and 90 acres, respectively.

Establishing Marine Reserves

As noted above, the Regional Board's 2005 independent science panel found that this option would provide some level of mitigation, largely to the benefit of commercial and harvested species rather than the larger suite of entrained species. However, this mitigation opportunity has since become fairly limited, as the panel's 2005 review occurred prior to the Marine Life Protection Act Initiative and establishment of the state's redesigned and expanded network of marine reserves and conservation areas. With these marine protected areas now in place across approximately 16% of state waters, including several that encompass much of DCPP's source water body, there is likely no longer the same opportunity, demand, or justification to create additional reserves than there was in 2005 prior to the to the statewide effort. The California Department of Fish and Wildlife and Fish and Game Commission are also completing a decadal review process that includes consideration of proposals for adjustments to the existing marine protected area network. Pursuing adjustments or additions outside of this formal process would raise a variety of regulatory and legal questions. In addition, similar to

[61] The Regional Board's approved mitigation package included both artificial reefs and estuarine restoration. The Board applied the ratios above for each and for the 424-acre Huntington Beach APF required about 40 acres of artificial reef and 60 acres of credit for various estuarine restoration activities. Applying this same approach for DCPP's 9,365-acre APF would result in the need for about 885 acres of artificial reefs and 1370 acres of estuarine restoration.

the artificial reef option discussed above, establishing new reserves would likely require several years of extensive review and regulatory process before they could be implemented. For example, the Chumash National Heritage Marine Sanctuary, established in 2024, was first proposed in 2015. This effort was spearheaded by the Northern Chumash Tribal Council in an effort to protect the area offshore of California's central coast due to its vital cultural significance and biological resources. As such, with the establishment of the state's redesigned Marine Protected Area network and this Sanctuary, establishment of additional marine reserves as mitigation for adverse impacts from operations of DCPP would raise a variety of feasibility challenges.

Conservation easements

Conservation easements are generally considered to provide mitigation in the form of preservation, in that they protect existing habitats rather than creating new or restoring degraded habitats.[62] The Regional Board's 2005 independent science panel found that a conservation easement consisting of about 2,560 acres of DCPP shoreline and associated uplands would provide a small amount of in-kind but mostly out-of-kind mitigation. Establishment of conservation easements over Diablo Canyon lands was further emphasized in the May 2023 Diablo Canyon Power Plant Land Conservation and Economic Development Plan prepared by the California Natural Resources Agency pursuant to SB 846. This plan enumerates five specific values identified as a result of the public stakeholder process that was carried out to guide its development. The first of these values is to "[f]oster the robust conservation of environmental and cultural resources while enabling appropriate public access." This value is further described in the plan as follows:

> Input from local groups, leaders, and residents consistently raised the importance of conserving environmental and cultural resources on the Diablo Canyon Lands while protecting existing public access to these lands. Many also discussed a strong desire to expand public access and enable sustainable economic use in ways that avoid or minimize impacts to significant environmental and cultural resources. To achieve these objectives, any future land-use decisions should consider a durable conservation easement or another appropriate legal instrument to conserve and protect these resources and values in perpetuity. This easement or similar mechanism should also enshrine appropriate public access that is provided in a way that doesn't harm these resources.

Considering such a conservation easement as mitigation involves determining an appropriate mitigation ratio. The mitigation ratio needed for this type of easement to fully compensate for entrainment impacts would be relatively high – 10:1 or more[63] -- as

[62] Some conservation easements provide an opportunity to create or restore habitats once an area is protected through an easement.

[63] Note that because this mitigation would be less productive per acre than the source water body, the ratio refers to 10 acres of easement needed (the first figure of the ratio) for every acre of affected source water body (the second figure of the ratio).

most of the PG&E lands available for an easement are uplands that would provide a lower level of productivity and less direct benefit to marine life per acre than each acre of the marine habitats from which DCPP entrains marine organisms. Of the approximately 12,000 acres of available Diablo Canyon lands, only about 1% are the more highly productive shoreline/intertidal areas that most directly benefit nearshore waters.[64] The rest of the lands are a mix of coastal upland habitats, which, although relatively less productive, would nonetheless benefit intertidal and nearshore species and habitats in several key ways. A conservation easement would maintain bidirectional connectivity across this coastal land/water ecotone and allow for natural energy and nutrient exchange, would avoid or reduce likely or potential land development effects on the marine environment, (e.g., would prevent or limit harmful stormwater, pollution and sediment runoff), and would support wildlife use such as seabird nesting/roosting, marine mammal haul-outs, and migration corridors. An easement would also support the full functioning of adjacent Marine Protected Areas and enhance the resilience of the marine environment by increasing its ability to withstand the broad set of stressors associated with climate change and sea level rise. These and other benefits are more fully described below and in the technical memorandum prepared by Commission staff ecologist supervisor, Dr. Lauren Garske-Garcia, and included with this report as **Appendix B**.

Studies of the nexus between nearshore biological productivity and an adjacent shoreline/upland easement, the connection between uplands, watersheds, and marine systems, and the potential benefits that conservation of uplands can have on marine systems have been carried out by the scientific community and indicate that integrated planning of land conservation with respect to marine ecosystems is important and beneficial.[65] The integrated studies identified various “Cross-System Threats” that anthropogenic changes to land can have on marine processes and species, including nutrient runoff and resulting eutrophication, toxic phytoplankton blooms, hypoxia, soil loss, and increased sediment loads which can alter the structure and function of coastal ecosystems, and the introduction of pesticides and other contaminants.[66] These cross-system threats mostly originate on land and affect the sea, and can be minimized by upland conservation.

An example of the positive connection between uplands and watershed conservation and marine systems, particularly in areas like the area around DCPP where the uplands are in close proximity to the sea, is the Hawaiian mauka-to-makai (translated from the Hawaiian language as “mountain-to-sea”). In Hawaii, freshwater from estuarine and nearshore upland environments supports the food, water and habitats used by marine species (Wilmot et al. 2022)[67]. Conservation of uplands reduced land-based impacts from development (such as wastewater and pollution) and have allowed reefs to

[64] A 100-foot wide strip of shoreline along 14 miles of coast equals about 145 acres, which is 1.4% of the 12,000-acre area of Diablo Canyon lands owned by PG&E or its affiliate, Eureka Energy Company.

[65] Alvarez-Romero et. al, 2012.

[66] See Alvarez-Romero et. al, 2012, and Tallis et. al, 2008.

[67] Wilmot et. al (2022)

maintain positive coral cover trajectories and helped coral reefs better withstand various stressors (Gove et al. 2023)[68]. A similar approach of upland conservation for Diablo Canyon lands could result in benefits to the marine environment and thus function as a mitigation mechanism to offset the adverse impacts to marine ecosystems resulting from operation of the DCPP cooling system.

There are also a number of studies that characterize the important nutrient transport relationship between coastal uplands and nearshore waters, including several conducted along the central California coast. These studies generally recognize the importance of nutrient inputs from terrestrial and riparian areas in supporting primary production in intertidal and subtidal habitats. They also describe the secondary production that occurs when various species forage along the shoreline and provide additional nutrient inputs to the marine habitats.

One important characteristic identified for the particular type of upland habitat present on the Diablo Canyon lands is that coastal grasslands in California have generally been recognized as having some of the highest plant diversity of all North American grasslands and are also subject to being overtaken by non-native species if that high diversity is reduced.[69] This suggests that an easement protecting the existing diversity and limiting development that could introduce non-native species would be overall beneficial.

Additionally, the Commission has found in many past decisions that new terrestrial development often results in increased runoff of pollutants, sedimentation, and other contaminants into nearby waterbodies. A conservation easement prohibiting or limiting limit the types of development that result in these impacts would thereby eliminate or reduce the negative effects on biological productivity. For instance, new impervious surfaces can increase the volumes and velocities of stormwater, which can degrade water quality. Pollutants commonly found in runoff associated with the development include petroleum hydrocarbons including oil and grease from vehicles, heavy metals, synthetic organic chemicals, sediment and vegetation, litter, fertilizers, herbicides, and pesticides. The discharge of these pollutants to coastal waters can cause cumulative impacts such as eutrophication and anoxic conditions resulting in mortality of marine species and diseases and adverse changes to species composition and size. The discharge of pollutants can introduce excess nutrients into coastal waters causing algae blooms and increasing turbidity, which both reduce the penetration of sunlight needed by aquatic vegetation that provides food and cover for marine species. Pollutants can disrupt the reproductive cycle of aquatic species and result in acute and sublethal toxicity in marine organisms leading to adverse changes in reproduction and feeding behavior. These effects would reduce the biological productivity and the quality of coastal streams and waters, and reduce optimum populations of marine organisms. This nexus between upland and marine systems was also recognized in the 2000 draft

[68] Gove et. al (2023)

[69] See Stromberg et.al, Composition, Invasibility, and Diversity in Coastal California Grasslands, in Madrono, a West American Journal of Botany, 48 – 236-252, 2001, which surveyed 33 coastal prairies in California, including two within Diablo Canyon lands.

conservation easement agreed to by PG&E and the Regional Board. That agreement noted that the easement, if accompanied by associated Best Management Practices, would benefit marine resources through protection of watersheds and habitat adjacent to the shoreline.

Additionally, and despite providing less biological productivity per acre compared to artificial reefs or estuarine restoration, an easement over the Diablo Canyon lands would have several advantages over those other options. Although an easement would provide only partial immediate mitigation and would less directly function to maintain marine life productivity, it could be available and effective relatively quickly, whereas both reefs and estuarine restoration, if available, would take years to plan, implement, and eventually reach their expected performance targets. An easement also provides more certainty than would be provided by a reef or restoration approach in which future successful functioning is uncertain. Further, even though protection of a primarily upland area would provide less marine life-related productivity each year compared to that eventually provided by reefs or restoration, a permanent conservation easement would make up for these initial years of deficit by remaining in place and providing benefits both during and long after DCPP's operations and impacts end.[70] During DCPP's operating term, the easement would provide less marine life productivity per year than would be needed to fully mitigate for each year's entrainment impacts, however, having it in place after operations end would allow this annual mitigation deficit accrued during operations to be reduced each post-operation year and eventually reach a level of providing a full offset (see additional analysis below). The easement would also benefit other coastal resources – for instance, it would offer improved functional resilience for the ESHA covering much of these coastal uplands, contribute to the preservation of cultural resources and provide for public access, recreation, and education opportunities.

As an example of using the mitigation ratio noted above, a 12,000-acre easement (i.e. the approximate acreage of all Diablo Canyon lands including Wild Cherry Canyon and PG&E's security buffer area) consisting of shoreline and upland areas would likely provide at best about 10% of the productivity per acre of that provided by either reefs or restoration. At this 10:1 ratio, a permanent 12,000-acre conservation easement would provide about 1,200 acres of mitigation credit each year against the annual "debit" of DCPP's 9,360-acre APF. Put another way, the 10:1 ratio would result in mitigation credits equal to 10% of the protected land acreage. This would not be sufficient to fully mitigate for each year's 9,360-acre impact; however, as noted above, the deficit accumulated during each year's operation would be reduced by 1,200 acres each year after operations end. Therefore, if DCPP operated for five years, it would take about 34 years after the end of operations for the mitigation to compensate for the operational impacts. if DCPP operated for the full 20 years of its proposed NRC relicensing period,

[70] Reefs and estuarine restoration would also presumably remain after the end of DCPP operations but they would not provide the easement's initial years of at least partial mitigation, which would result in a substantially greater mitigation deficit to overcome.

this deficit between impacts and mitigation would take about 130 years after operations end to balance (see Table 2 below).[71]

However, PG&E has clarified that not all 12,000 acres of the Diablo Canyon lands are available for it to include in a conservation easement. For example, the roughly 2,400 acre Wild Cherry Canyon is owned by PG&E's subsidiary and subject to ongoing litigation to determine if two consecutive 99-year leases on it remain in place. The conservation of more limited acreages would extend the time needed for DCPPs adverse impacts to the marine environment to be offset. For an easement consisting of just the 3,400 acres of Diablo Canyon lands owned by PG&E and its subsidiary within the coastal zone (i.e., the approximately 4,000 coastal zone acres minus the 600 acres within PG&E's high-security Parcel P), the five- and 20-year operating periods would take about 130 and 530 years, respectively, for the impacts to be balanced by adequate mitigation. The many decades needed to reach this point under either scenario are within the expected lifespan of a conservation easement, though these extended compliance periods also establish the need for this mitigation approach to include long-term protections. Therefore, although the immediate and short-term benefits of an easement are less than needed to meet the CCMP's requirement of maintaining marine life productivity, the long-term benefits would eventually make up for the ongoing annual deficits and would then continue to accrue into the future.

Although SB 846 provides a pathway for PG&E to continue operating DCPP at least through October of 2030, it is possible that operations would continue well beyond that date – e.g., through additional legislative extensions and/or through the 20-year term of its proposed NRC re-licensing period. Based on the most recent analyses and projections by the California Energy Commission and the California Independent System Operator, DCPP provides a substantial portion of the state's electricity baseload and serves as an important component in the grid's electricity transmission system. With the state expecting an increase in electricity use of about 10 gigawatts by 2035 (equal to about five DCPPs) and with the recent federal slowdown of efforts towards developing renewable energy sources such as offshore wind, it is possible that Diablo Canyon will operate somewhat longer than five years, which makes a permanent conservation easement a more appropriate mitigation approach than shorter term options.

This conservation easement option is also consistent with the goals and values of the California Natural Resource Agency's Diablo Canyon Power Plant Land Conservation and Economic Development Plan, prepared pursuant to SB 846 in May of 2023. That

[71] With a 10:1 ratio, each year of a 12,000-acre easement would generate 1,200 mitigation credits against a 9,360-acre APF, leaving an annual deficit of 8,160 acres. If DCPP operations ended after five years, the cumulative deficit would be 40,800 acres ((9,360 x 5) - (1,200 x 5) = 40,800), which would then decrease by 1,200 acres each subsequent year until it reached "net zero" about 34 years later. If DCPP operated for 20 years, the deficit would reach 163,000 acres and would then reach "net zero" about 136 years later. Note: these calculations do not include an additional ratio adjustment that is typically used when mitigation benefits are delayed until well after the impacts begin. Including this adjustment to account for significant temporal losses would significantly extend the payback period, making it essential that the easement be in place for the long term.

plan anticipates that the Diablo Canyon lands would be used for robust conservation of environmental and cultural resources, expanded public access, and transfer to tribes to ensure cultural resource protection. Support for protecting these lands has also been established through several other initiatives, starting with the DREAM Initiative ("Diablo Resources Advisory Measure"), approved in 2000 by 75% of voters in San Luis Obispo County.

One additional important consideration with using preservation as a mitigation option is to identify what type of threat might be present if the preservation did not occur. For example, preserving habitat that would otherwise be subject to removal and development may generate more mitigation value than preserving an area with limited amounts of rare or sensitive habitat or under limited risk from damaging development. With the Diablo Canyon lands, nearly all of them are undeveloped areas that have been preserved as open space with limited agricultural use. This has allowed significant native habitats and rare vegetations communities (such as Bishop Pine forest) to establish and mature over many decades, providing a de-facto refuge for habitats and plant and wildlife species that have been degraded or lost from many surrounding lands. As such, the preservation value of the Diablo Canyon lands is very high.

While there is little immediate development threat for the lands under the current situation with PG&E managing the area for limited agricultural use and public access and maintaining a substantial portion of its lands as an NRC-approved security buffer, this is likely to change. PG&E is considering requesting that the NRC allow DCPP's approximately 12,000-acre security buffer be reduced to include just the area immediately adjacent to the DCPP facility – i.e., the existing approximately 600-acre high-security area or its immediate surrounds. This would put DCPP in line with most other nuclear power plants in the country, all of which have much smaller security buffers than DCPP,[72] and would reduce PG&E's security costs. This reduction, however, would increase the likelihood of other types of intensive development being allowed on these 12,000 acres, some of which could lead to the adverse effects noted above and reduce the benefits these lands currently provide to the adjacent shoreline and marine ecosystems.

Of all the Diablo Canyon lands, the most development pressure would likely be on the South Ranch, due to its proximity to Avila Beach and Port San Luis and due to the availability of infrastructure that could allow access and development, including PG&E's access road to the power plant. Currently, 1,200 acres of the 5,000-acre South Ranch are currently protected as "open space" under a deed restriction;[73] however, the deed restriction does not ensure the same levels of protection as would be provided through a conservation easement and only covers the portion of South Ranch around Pt. San Luis. The North Ranch area would likely be under less development pressure, as existing access is available only through DCPP's high-security area or through Montaña de Oro State Park. Similar to South Ranch, part of the area covered by public access

[72] For example, the other two California nuclear power plants - Humboldt Bay and San Onofre – had security zones that allowed public access to within several dozen yards of the facility.
[73] PG&E voluntarily offered and the Commission approved this 1,200-acre deed restriction as part of a CDP for replacement of DCPP's steam generators.

trails is protected by a deed restriction that includes a provision ensuring landward relocation of the trails if needed due to coastal erosion; however, this covers only a few dozen acres of the roughly 4,500 acre North Ranch and is not as protective as would be a conservation easement. Overall, the entire coastal strip – i.e., the coastal bluffs and mostly flat, terraced lands immediately inland – along both North and South Ranch would likely experience higher development pressure due to its location immediately above the shoreline and the availability of whitewater views and access to some remote beach areas. Although it would not restrict development in the same manner as a conservation easement, some development restrictions exist for this area through San Luis Obispo County land use planning and zoning, including a minimum parcel size of 80 acres for new land divisions along the Diablo Coastal Terrace, unless the Coastal Zone Land Use Ordinance would require a larger parcel size, and a requirement that "the agricultural parcels owned by Pacific Gas and Electric shall remain in a consolidated holding to maintain the low population zone surrounding the Diablo Canyon Nuclear Power Plant."

Importantly, both the North and South Ranch areas also include significant tribal cultural resources that could be lost, damaged or degraded through more intense development than would be allowed under a conservation easement (see Section G of this report below). The 2009 revised San Luis Bay Area Plan (Coastal) recognizes certain of these areas as warranting protection and establishes that "No development shall occur west of Diablo Canyon Road other than restoration of the existing drainage course, and any cultural/archaeological preservation activities that have been coordinated and approved by the State Historic Preservation Officer and representatives of the appropriate Chumash tribe."

Regardless, and as noted above, while these different areas may experience different levels of development pressure, the scale of DCPP's impacts to marine life require a substantial area to be protected under a conservation easement in order to provide adequate mitigation within a reasonable time frame.

PG&E's Proposed Mitigation

As part of its CDP application and consistency certification, PG&E has proposed providing a compensatory mitigation package to address the adverse impacts to coastal resources, particularly marine biological productivity, associated with DCPP's extended operations. The mitigation includes a Phase 1 including: (1) establishment of a conservation easement across approximately 1,100 acres of the North Ranch portion of PG&E's property directly adjacent to Montaña de Oro State Park; (2) establishment of a right-of-first-refusal for government or non-profit land conservation organization purchase of the lands within the approximate 5,000 acre South Ranch portion of the Diablo Canyon property owned by PG&E's subsidiary, Eureka Energy Company; (3) an offer to dedicate an easement for a series of new public access trails; and (4) an offer of $5.6 million to accompany the trail easement for use planning, constructing, maintaining, and managing the public access trails. Phase 2 of PG&E's proposed mitigation would be triggered by operation of DCPP beyond those dates of the current California Public Utilities Commission approval and includes an additional conservation

easement over approximately 2,200 more acres of North Ranch lands as well as additional trail easements. The areas to be covered by the proposed conservation easements, right-of-first refusal, and trail easements are shown in **Exhibit 5**, and **Special Conditions 1** through **3** would memorialize them and establish the details necessary to ensure their successful implementation. Although not established to provide mitigation for adverse impacts to coastal resources under the Coastal Act or CCMP, PG&E would also continue paying the interim in lieu once-through-cooling fee required by the State Water Resources Control Board. In addition to providing benefits for marine life productivity, PG&E's proposed property interest transfers would also provide public access amenities, protection of sensitive habitat and cultural resources, and benefits to other coastal resources, all of which are described in subsequent sections of these Findings.

As mitigation for DCPP's entrainment impacts, the proposed property interest transfers would provide the conservation easement benefits described above but at a much-reduced scale compared to an easement over the full 12,000 acres of Diablo Canyon lands. Using the above-referenced "net zero" calculation, if DCPP operates for up to five years and PG&E provides 1,100 acres of land through a conservation easement, it would take about 420 years to balance those five years of lost marine life productivity with the benefits provided by the land. If DCPP operated for 10 years and PG&E provided the additional approximately 2,200 acres, the balance point would be reached in about 276 years, and 20 years of operations would require about 550 years to reach that point (see Table 2 below).

Commission staff worked to both inform PG&E of this significant time lag and to reinforce the need for additional feasible mitigation. Staff identified the potential for a conservation easement over the entirety of North Ranch (owned by PG&E) and South Ranch (owned by PG&E's subsidiary, Eureka Energy). However, PG&E conveyed that such an easement would be infeasible and raised a variety of legal issues, including uncertainty as to whether such an easement would be consistent with requirements of, and receive the necessary approvals from, the California Public Utilities Commission (CPUC). Commission staff confirmed with CPUC staff that PG&E's purchase of a conservation easement over property held by its affiliate, Eureka Energy, would indeed be subject to CPUC discretionary review and authorization and that certainty could not be provided as to the result of that review.

Elaborating on its concerns in an email to Commission staff dated October 10, 2025, PG&E stated:

> The California Public Utilities Commission has established Affiliate Transaction Rules (ATRs) to ensure that regulated utilities like PG&E do not provide unfair competitive advantages to their affiliates or shift costs to ratepayers. The ATRs apply to transactions between a utility and its affiliates, including transactions transferring property rights, such as conservation easements. In addition, when it approved PG&E's plan for reorganization, the CPUC directed that any sale or encumbrance of assets of affiliates or subsidiaries over which PG&E or PG&E

> Corporation has control and that has a value over $5 million requires prior Commission authorization.
>
> Eureka Energy is a PG&E affiliate that owns the South Ranch properties, and therefore any transfer of Eureka's property rights, including a conservation easement, is subject to the CPUC's affiliate transaction rules, which require, among others, arm's-length negotiation, fair market valuation with full appraisal, and CPUC approval if the value exceeds $5 million. In addition to the delay associated with obtaining CPUC approval, the fair market value, with full appraisals, of a conservation easement on the Eureka Energy land would be financially burdensome and cost prohibitive to the Utility's customers, who would pay the full costs for the encumbrance in rates.

However, as an alternative, and as described below, PG&E included in its proposal the purchase of a "right of first refusal" option from Eureka Energy for the entirety of South Ranch. By PG&E purchasing this option from Eureka Energy, the state or an approved non-profit land conservation organization would then be provided with an opportunity to purchase the roughly 5,000 acres of South Ranch if Eureka Energy decides at a future date that it is interested in selling or transferring those lands. Under this approach, the land purchase by the state or non-profit organization would be made at fair market value terms (or better) and thus address the concerns raised by PG&E regarding the reduction in the value of its affiliate's property resulting from the establishment of a conservation easement (which reduces property value by limiting its real estate development potential), the cost to its ratepayers from compensating Eureka Energy for this loss in value, and the uncertain outcome of the CPUC's required review.

Special Condition 2 memorializes this right of first refusal proposal by PG&E while establishing a variety of the specific details needed to help ensure it is implemented successfully. As described in **Special Condition 2**, PG&E would first need to contractually obligate Eureka Energy to offer the right of first refusal option before Eureka Energy offers to sell or transfer its lands. The right of first refusal would then be offered first to governmental agencies and, if no governmental agencies exercise the option, non-profit land conservation organizations, including those of California Native American Tribes, would also have an opportunity to purchase the property prior to a public sale. Such entities would be subject to Executive Director approval to help ensure they have the resources and expertise needed to effectively manage and protect the lands of South Ranch and the sensitive resources they include. To further ensure the property is protected from development not associated with open space, habitat conservation and public access, such approval would also be contingent on the entity's establishment of an irrevocable conservation easement in perpetuity for the property within South Ranch acquired under the right of first refusal, limiting its future uses to habitat protection, open space protection, and public and Tribal access (including but not limited to Tribal ceremonial use, Tribal gathering of natural materials, trails, signage,

benches, shade structures and restroom facilities). In addition, **Special Condition 2** requires PG&E to develop an agreement, subject to the Executive Director's approval, which would include reasonable terms specifying how the option is to be exercised and effectuated, including feasible purchase deadlines and closing obligations. If no approved purchaser exercises the option, the special condition requires PG&E to seek a CDP amendment for an alternative mitigation approach. Finally, the 5,000 acres subject to the right of refusal do not currently include the Wild Cherry Canyon lands because of the ongoing litigation regarding the legal status of those lands.[74]

Although PG&E's right of first refusal proposal provides less certainty than a conservation easement (because it is not guaranteed that an approved purchaser would ultimately acquire the lands and, thereby, ensure a conservation easement is established over them), the additional provisions and protections provided through the special condition developed to implement this proposal establish further assurances that this land and its sensitive biological and tribal cultural resources would be preserved and protected. Accordingly, with the accompanying **Special Condition 2**, the approximately 5,000 acres of South Ranch can be considered along with the roughly 1,100 to 3,300 acres of the proposed North Ranch conservation easement as mitigation for the loss of marine biological productivity associated with extended operations of DCPP.

Including those 5,000 acres of South Ranch in the "net zero" calculations results in PG&E balancing its impacts with mitigation in roughly 71 years for five years of operations and 209 years for 20 years of operations. Table 2 below compares the different mitigation time lags that would occur from several scenarios - a full 12,000 acre-immediate easement, PG&E's proposed two-phase 1,100- and approximately 2,200-acre conservation easement transfer, and finally, PG&E's conservation easement proposal with the addition of its 5,000-acre "right of first refusal" proposal bolstered by **Special Condition 2**.

As noted above, the 5,000-acre "right of first refusal" area does not provide as much certainty as areas PG&E proposes to cover with a conservation easement; however, it is included in these calculations because of the strong expectations that state and local interests are largely supportive of ensuring as much of the Diablo Canyon lands receive protection and because the condition requires a conservation easement once an approved purchaser acquires the land or, if no approved purchaser exercises and effectuates the option to purchase the lands, by requiring a CDP amendment to ensure that PG&E provides additional mitigation. Even with this 5,000-acre addition, it would still take a significant period of time for PG&E to fully meet its mitigation obligations.

[74] Specifically, there is a dispute regarding whether the lands remain leased to HomeFed Corporation and other entities or whether that lease expired in 2019. In a decision issued on September 8, 2025, the court of appeal held that the lease remains in effect until 2067 and is subject to an option to renew for another 99-year term until 2166. The decision is not yet final.

However, two factors may serve to somewhat shorten this duration: 1) the location and composition of the lands PG&E is proposing to cover with the conservation easement and right of first refusal; and 2) PG&E's continued payment of the State Water Board required once through cooling interim in lieu mitigation fee. Together, these factors result in an improved compensatory mitigation package, though not sufficiently to allow conformity with Section 30230 and 30231 policies requiring that marine life productivity be sustained and maintained. These three components are discussed below.

Table 2: Years to reach full mitigation under four land protection scenarios

Lands protected	**5 years operation**	**10 years operation**	**20 years operation**
Entire area: ~12,000 acres	34 years	68 years	130 years
PG&E conservation easement proposal: ~1,100 acres initially protected for operations through Oct. 2030, then ~2,200 acres more protected for any operations beyond Oct. 2030	420 years	276 years	550 years
Addition of PG&E 5,000-acre "right of first refusal" proposal with protections provided through Special Condition 2: ~6,100 acres initially protected for operations through Oct. 2030, then ~8,300 acres protected for any operations beyond Oct. 2030	71 years	106 years	209 years

Regarding the location of the offered lands, because they are along and immediately inland of the nearshore waters affected by DCPP's entrainment, they would provide greater mitigation benefit per acre in terms of connectivity, nutrient and energy transfer, and other ecosystem functions than most of the lands located further inland. Land protection along this part of the shoreline would also improve the functional resilience of a variety of sensitive habitats and species both within and near the protected area. Although there are insufficient data available to quantify these increased benefits, the location of these lands adjacent to the nearshore waters would provide a qualitative increase in mitigation benefits relative to areas further inland. If this could be quantified or better characterized, it would likely result in a lower mitigation ratio, which would therefore allow the above "net zero" calculations to result in a somewhat shortened time period to reach a balance point between impacts and mitigation.

Regarding continued payment of the OTC fee, PG&E is expected to continue paying about $12 million per year, which would be used for various projects, including some that would provide mitigation for DCPP's impacts. Past use of these funds has gone toward projects to benefit marine resources, though not always for projects associated with DCPP impacts or meant to conform to relevant CCMP and Coastal Act policies.

For example, PG&E funds have helped with an approximately 42-acre restoration of Batiquitos Lagoon in San Diego County and other smaller restoration projects in San Luis Obispo County and along the Big Sur coastline. This is because the State Board's OTC program is statewide, with fees from all coastal power plants pooled together and used across the state on projects with the goal of helping to address the combined effects of all OTC power plants by funding projects and efforts that benefit California's marine environment. This is different from a more specific project level focus. If additional funds were to go towards projects in or near DCPP's source waters, however, there would likely be a qualitative improvement in marine life productivity that would help reduce the above timelines to some degree and provide additional mitigation.

Conclusion

The CCMP's Section 30230 states that marine resources shall be maintained, enhanced, and where feasible, restored, and that uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters. Section 30231 states that the biological productivity and the quality of coastal waters appropriate to maintain optimum populations of marine organisms shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of wastewater discharges and entrainment and by controlling runoff.

Diablo Canyon's primary adverse effects on marine resources are those related to entrainment, which results in a loss of marine life each year equal to approximately 9,360 acres of nearby nearshore waters annually (equal to more than 14 square miles). PG&E has proposed to offset these impacts through the above-referenced phased conservation easements on North Ranch and by providing a right of first refusal for South Ranch. The Commission appreciates PG&E's efforts to recognize the significant adverse impacts to marine life from the extended use of DCPP's cooling system and to propose mitigation as an offset. However, the proposal falls significantly short of adequately mitigating for DCPP's annually occurring adverse impacts to marine resources.

As described above, it is infeasible for PG&E to avoid or minimize these impacts through use of alternative cooling methods, so approval of the proposed relicensing would involve continued use of the OTC system. The ongoing use of the OTC system does not allow DCPP 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. Of the available mitigation measures to address these impacts, several are not feasible and the primary available and feasible measure – conservation easements – would not provide the level of protection needed to maintain, enhance, and where feasible, restore those resources as required by these Coastal Act policies. This results in the proposed project's nonconformity with the provisions of CCMP Sections 30230 and 30231 requiring that marine resources be maintained, that biological productivity be sustained, and that the adverse effects of entrainment be minimized. 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. However, because DCPP is considered a "coastal dependent" industrial facility[75], the Commission may therefore evaluate the proposed operating license renewal 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 E of this report.

E. Coastal Dependent Industrial Development

Section 30101 of the Coastal Act 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.

Section 30260 of the Coastal Act states:

> (a) 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.
>
> (b) Notwithstanding subdivision (a), 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 all of the following conditions are met:
>
> (1) Alternative locations are infeasible or more environmentally damaging.
>
> (2) Permitting the development would not adversely affect the public welfare.
>
> (3) Adverse environmental effects are mitigated to the maximum extent feasible.
>
> (4) The new or expanded coastal-dependent industrial facility is not an oil and gas development, refinery, or petrochemical facility.

Coastal Act Section 30260 provides that coastal-dependent facilities are encouraged to locate or expand within existing sites, though these facilities are to be evaluated for conformity to all applicable Chapter 3 policies. If a proposed new or expanded coastal-dependent facility is found to be inconsistent with one or more Chapter 3 policies, the Commission may nonetheless approve the proposal if it meets a four-part test: 1) alternative locations are infeasible or more environmentally damaging; 2) permitting the proposal would not adversely affect public welfare; 3) its adverse environmental effects are mitigated to the maximum extent feasible; and 4) it is not an oil, gas, or petrochemical facility.

[75] DCPP 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.

While nuclear power plants in general are not necessarily coastal-dependent, DCPP is considered coastal-dependent due to its reliance on billions of gallons per day of seawater, and its operations require that it be sited on or adjacent to the sea in order to function at all.[76] The proposed relicensing would allow for continued operation of this existing coastal-dependent industrial facility at an existing, disturbed location.

However, as determined in Section D of these Findings, the Commission has found that DCPP's proposed relicensing is inconsistent with Coastal Act policies related to marine biological resources and productivity (Sections 30230 and 30231). Because DCPP is a coastal-dependent industrial facility, the Commission may apply Section 30260 to "override" those inconsistencies and nonetheless approve the project if it meets the above-referenced four tests of Section 30260. As DCPP is not an oil, gas, or petrochemical facility, it meets the fourth of these tests. The remaining three tests are evaluated below.

Test 1 – Alternative Locations are Infeasible or More Environmentally Damaging
Section 30260's first test requires an assessment of whether alternative locations are available and whether they would be less environmentally damaging than the current location. As this proposed relicensing and extension of operations is for an existing facility rather than a new facility, it is essentially infeasible for several reasons to build or relocate DCPP to a different location. First, California's electrical grid and transmission systems have relied on DCPP being located at its current site for the past 40 years and relocating it could disrupt the functioning of those systems or require significant additional development in order to maintain them. Additionally, and as noted in Section D above, alternative methods or locations for cooling DCPP at its existing location are essentially infeasible, as they would also involve lengthy and uncertain review, permitting, and construction processes, and would likely result in the same or more environmentally damaging adverse effects on the marine ecosystem or other nearby coastal resources, given the sensitivity and undeveloped nature of the surrounding area. Further, the costs of any relocation would be in the multiple billions of dollars, which would be borne by the state's ratepayers. Based on the above, 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. For this proposed DCPP relicensing, public welfare considerations fall into at least two main categories – those related to coastal resources and those related to the continuing use of nuclear energy in the state's energy grid.

Regarding the primary coastal resource issues, the project as proposed would involve ongoing losses of marine life productivity during extended power plant operations and

[76] See also previous Commission determinations that found DCPP to be a coastal-dependent industrial facility – e.g., most recently under CDP #E-12-005.

continued limitations on public access to the shoreline. As detailed above, DCPP's entrainment represents an annual loss of public trust marine resources about equal to that produced in 14 square miles of nearshore waters. This impact removes a substantial amount of ecosystem function, habitat connectivity, wildlife benefits, and other amenities important to marine and terrestrial species and habitats. As noted in Section D above, a conservative economic estimate puts the replacement value of these public trust assets at no less than about $16 million per year. These losses also reduce the value of California's efforts to create marine reserves and to implement its "30 by 30" initiative for protecting the state's public resources. The continued restriction to public access along about 11 miles of shoreline and public trust lands would result in a daily loss of at least several hundred visitors to the area per day, as described below in Section F.

However, these resource impacts are addressed to a large degree through PG&E's mitigation proposal and the associated Special Conditions that would implement it – as discussed in detail in prior sections of this report. The mitigation would provide marine resource benefits over the long-term and result in substantial increases in public access to part of the Diablo Canyon shoreline and associated uplands.

Evaluating the public welfare aspects of extending the operations of a nuclear power plant requires another set of considerations. While the Commission cannot impose restrictions or conditions on the radiological safety or security aspects of nuclear power, it must acknowledge and consider the public welfare implications of the state's continued reliance on its last remaining nuclear power plant. To California's benefit, DCPP's approximately 2,240MW provides about 9% of the total electricity used in California and about 20% of that produced within PG&E's Northern California service area. DCPP also serves as an important link on the state's transmission grid, which relies on its energy generation to maintain baseload power availability, grid reliability, and flexibility. The state's energy agencies (Energy Commission, Independent System Operator, and Public Utilities Commission) have all recognized the need for and importance of the electricity it provides and have projected a shortfall if DCPP were to shut down before 2030. DCPP is also considered to provide approximately 17% of the carbon-free electricity generated in California and is a significant contributor to California's goal of being net greenhouse gas neutral by 2045. SB 846 also states that "it is the policy of the Legislature that seeking to extend the Diablo Canyon powerplant's operations for a renewed license term is prudent, cost effective, and in the best interests of all California electricity customers."[77] This importance and need have recently become more significant with the federal government's shift away from supporting renewable energy sources such as offshore wind, which California has been anticipating as a major energy provider in the relatively near future. Further, replacing the electricity produced at DCPP with new conventional gas-fired power plants would incur significant additional costs, which would result in increased rates for energy

[77] Cal. Public Resources Code § 25548(b).

consumers, and would detract from the state's goals to reduce greenhouse gas emissions, as natural gas is a higher contributor to those emissions than nuclear energy.

Although the Commission is pre-empted by federal law from regulating based on radiological safety and security issues, Section 30260's public welfare test allows the Coastal Commission to consider other 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 non-radiological aspects of the storage of nuclear waste, which the Commission has reviewed in prior actions regarding the independent spent fuel storage installations at DCPP and San Onofre Nuclear Generating Station, PG&E has stated that there is sufficient storage at the existing ISFSI and within the spent fuel pools at DCPP to accommodate all spent fuel it expects to generate through the license renewal period. The proposed project is, therefore, not expected to create new storage problems or require additional development associated with fuel storage.

With regards to the project's effects on safety and security, DCPP is subject to ongoing testing, inspection, and security assessments by the NRC, which considers both of DCPP's existing storage methods to meet NRC safety requirements and which has thus far approved ongoing operations, testing, and monitoring results at DCPP's storage facilities. The NRC also conducts regular, ongoing inspections and monitoring of DCPP's operations, equipment, personnel, and other facets of the nuclear power plant and has generally found PG&E to be operating the facility safely and within the thresholds and requirements imposed by the NRC. DCPP's operations are also subject to review and inspection by the Diablo Canyon Independent Safety Committee ("DCISC"), established in 1988 pursuant to a settlement agreement between PG&E and the California Public Utilities Commission. The DCISC conducts reviews on essentially any aspect of DCPP operations and safety that it believes are warranted and provides recommendations for any changes or improvements it believes are necessary. The DCISC's most recent annual report states that DCPP overall is operating in a manner that preserves public health and safety. While acknowledging the inherent potential risks of nuclear energy production, the Commission does not have independent expertise on the issues related to grid reliability and nuclear safety and therefore relies on the expertise of the agencies and experts cited above.

The Commission therefore finds that not permitting the proposed project would adversely affect the public welfare, and that the license renewal therefore meets the second test of Section 30260.

Test 3 – Adverse Environmental Effects Are Mitigated 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 D above, the proposed

project does not conform to Coastal Act Sections 30230 and 30231 and there are no feasible mitigation options that would result in the necessary conformity or that would adequately avoid or minimize the impacts caused by DCPP's cooling system.

Section D describes several compensatory mitigation options, most of which were evaluated about 20 years ago as part of the Regional Water Quality Control Board's review but were not adopted at that time. Some of these are no longer available and several were determined by the Regional Water Quality Control Board's independent science panel to have little value for addressing entrainment-related impacts.

Of the remaining available compensatory mitigation options, the primary remaining feasible option of the scale needed to address the DCPP's cooling water impacts is a permanent conservation easement over the nearby Diablo Canyon lands and shoreline. While a conservation easement would provide mostly out-of-kind and offsite mitigation in the form of terrestrial habitat protection, it would also provide long-term direct benefits to the marine environment through avoidance and minimization of adverse water quality effects that could result from potential land-based coastal development. Further, the protection of the Diablo Canyon lands, given their undeveloped nature and abundant intact native habitats and sensitive wildlife and plant communities, within a unique protected landscape bounded by a state park unit and offshore state and federal marine protected areas, provides a rare opportunity to synergistically elevate coastal resource conservation benefits. As described in Section D and the accompanying technical memorandum prepared by the Commission's supervising staff ecologist, Dr. Lauren Garske-Garcia, an easement would also result in substantial benefits to multiple coastal resources from the interchange of energy and resources between land-based and marine-based habitat areas. The permanent protection provided by this easement would ensure these protections are provided to the maximum extent feasible, as required by this test of Section 30260. The need for a permanent easement also reflects that each year of DCPP operations causes far more adverse impacts to marine life than the annual benefits provided by the easement and allows for the time necessary for the mitigation it provides to fully offset the impacts over time.

The easement would also provide protection for the many species entrained at DCPP that either use or originate in these shoreline and intertidal areas along the DCPP coastline, so by maintaining the existing conditions of these areas, the conservation easement that PG&E's proposes to establish through its mitigation proposal and the associated special conditions (particularly those that would guide implementation of the right of first refusal offer for South Ranch) helps to protect continued production of marine life 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 DCPP.

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, sustainable agricultural uses, and DCPP 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 DCPP's operating life expressed its interest in allowing only these existing uses to continue and has not proposed additional developments at this time. As a result, the conservation easement will primarily protect the status quo for several years – either until the end of DCPP's operations or until Eureka Energy is interested in the sale or transfer of South Ranch. The easement would, therefore, result initially 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.

Such an easement is clearly feasible. PG&E currently owns or controls about 4,500 acres that it manages for the various uses noted above, including coastal agriculture, public access, and habitat values, and its subsidiary owns another approximately 7,400 acres. Both entities have thus far managed these lands to not allow other types of development that might compromise the security benefits these lands provide as an additional buffer around DCPP'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. However, PG&E is currently considering a request to the NRC that it remove most of the existing security requirements that extend across these lands and to instead rely primarily on the security measures present within its 750-acre high security area around DCPP and the ISFSI. Such a change could be accommodated by the conservation easement, and the presence of the easement would have a more immediate beneficial mitigation effect by preventing or reducing the potential for harmful development that could occur if this request was granted.

Notably, PG&E has already accepted an access easement for the 1.8-mile Lighthouse Road for use by the Port San Luis Harbor District, as well as deed restrictions over parts of the Diablo Canyon lands that allow for the types of activities described above. As noted previously, PG&E and the Regional Board in 2003 agreed to a draft mitigation package that included a conservation easement over about 2000 acres of its North Diablo Canyon lands.[78]As part of its steam generator replacement project (CDP E-06-011), PG&E recorded a deed restriction over approximately 1,200 acres of land around Point San Luis meant to preserve open space and habitat values and promote sustainable agricultural practices.

Along with finding this easement option to be feasible mitigation, the Commission must also determine that the easement is the maximum feasible mitigation. As noted

[78] As noted previously, this agreed-up easement was contingent upon the Board later approving a modified NPDES permit for PG&E, which did not occur.

previously, DCPP's daily use of up to 2.55 billion gallons per day of seawater habitat represents a loss of biological production from nearly a cubic mile of seawater each year, a loss of marine life equal to that produced in 9,360 acres of nearshore waters along several dozen miles of the shoreline. 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 are therefore more substantial than they might be in an urban harbor or in a nearshore area with fewer or less productive habitat types.

By any of several methods to determine mitigation ratios, DCPP's marine life impacts would require a substantial easement to attain anything close to the goal of "no net loss" of habitat functions and values. As noted previously, it would require roughly 1,500 acres of artificial reefs or about 2,200 acres of estuarine restoration to adequately mitigate these losses. Because these two habitat types are far more productive per unit area than the average productivity of Diablo uplands and intertidal areas, an adequate easement would need to be several times larger than those 1,500 to 2,200 acres. As described above, those options are infeasible due to the lack of suitable areas for that scale of artificial reefs to be constructed or estuaries restored.

While PG&E may be able to provide some amount of artificial reef and estuarine mitigation, the nearshore areas in the vicinity of DCPP already consist largely of natural reef systems with little room for the full amount of needed artificial reef, and nearby estuarine restoration opportunities are fairly limited and constrained by existing legal protections established in those areas (for example, state marine reserves prohibit all take of marine life, even that associated with restoration activities). Even if opportunities were available in the area, mitigation projects of this type and scale have yet to be shown to be achievable and successful and would likely take years to come to fruition.

Other options such as establishment of marine reserves and payment of in-lieu fees would provide some level of mitigation. However, as noted above, the marine reserve option is now fairly limited and only a portion of the in-lieu fee funds that PG&E currently pays pursuant to the OTC policy go towards providing the types of compensatory mitigation expected to address the substantial loss of marine life productivity resulting from DCPP's extended operations.

To mitigate for these adverse impacts to coastal resources, PG&E has included as part of its consistency certification and CDP application a mitigation package, which **Special Conditions 1 through 6** would implement. This mitigation includes two main elements relevant to offsetting impacts to marine resources and would be implemented in two phases. Phase 1 would be for operation of DCPP's Units 1 and 2 through October of 2029 and 2030, respectively, and includes establishment of a conservation easement across approximately 1,100 acres of the North Ranch portion of PG&E's property directly and establishment of a right-of-first-refusal for government or non-profit land conservation organization purchase of the lands within the 5,000 acre South Ranch portion of the Diablo Canyon property owned by PG&E's subsidiary, and with a conservation easement requirement. Phase 2 of PG&E's proposed mitigation would be

triggered by operation of DCPP beyond those dates of the current California Public Utilities Commission approval and include an additional conservation easement over approximately 2,200 more acres of North Ranch.

Therefore, the following areas would not be given protection either through a conservation easement or a right of first refusal: (i) the 750-acre high security area encompassing the DCPP site and Parcel P; (ii) approximately 2,300 acres of Wild Cherry Canyon Lands; and (iii) approximately 1,200 acres of North Ranch adjacent to the DCPP site that PG&E has indicated it would retain as a security buffer. As noted in Section D, using conservative assumptions (i.e. assumptions that are more protective by capturing a higher estimate of impacts) to calculate an APF of 9,360 acres, the marine impact deficits associated with operations would reach net-zero with these conservation benefits after 71 years for five years of continued operations, and after 209 years for 20 years of continued operations.[79]

Commission staff recognizes the legal constraints involved in placing a conservation easement on Parcel P and the remainder of the 750-acre DCPP site, which operates as a high security area. Additionally, in light of the pending litigation involving Wild Cherry Canyon lands, those lands are not currently available to be put into a conservation easement. As to PG&E's plans to exclude 1,200 acres of North Ranch as an additional security buffer, Commission staff notes that PG&E has operated all 12,000 acres as the "owner controlled area" ("OCA"). NRC regulations allow a licensee to establish the OCA as an additional safety zone where a licensee has authority to control all activities.[80]

As to the South Ranch lands, which would be covered under a right of first refusal instead of an immediate conservation easement, those lands are owned by Eureka Energy, and PG&E indicated that it is not feasible for it to require Eureka to offer to dedicate those lands. Specifically, PG&E cited the CPUC's Affiliate Transaction Rules, which PG&E indicated it would need to follow for any such transaction and to compensate Eureka Energy for a depreciation in value of those lands.[81] PG&E stated that the Affiliate Transaction Rules would apply to any transfer of Eureka's property rights, such as a conservation easement, and that not only would a transfer require CPUC approval, the transaction "would be financially burdensome and cost prohibitive to the Utility's customers, who would pay the full costs for the encumbrance in rates."[82]

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[79] This assumes that the approximately right of first refusal for the 5,000 acres is exercised by an approved entity (which results in a conservation easement).

[80] 15 C.F.R. § 73.55(b).

[81] The Affiliate Transaction Rules were adopted through CPUC Decision No. 06-12-029 and include procurement restrictions (among other things). The rules require that transactions between a utility and its affiliates be limited to the sale of goods or property that are "made generally available by the utility or affiliate to all market participants through an open, competitive bidding process" Rule III.B.

[82] Letter from T. Jones (PG&E) to C. Teufel (CCC), dated October 10, 2025.

As an alternative to a conservation easement over the South Ranch lands, PG&E included in its proposal the purchase of a “right of first refusal” option from Eureka Energy for the entirety of South Ranch. By PG&E purchasing this option from Eureka Energy, the state or an approved non-profit land conservation organization would then be provided with an opportunity to purchase the roughly 5,000 acres of South Ranch if Eureka Energy decides at a future date that it is interested in selling or transferring those lands. Under this approach, the land purchase by the state or non-profit organization would be made at fair market value terms (or better) and thus address the concerns raised by PG&E regarding the reduction in the value of its affiliate’s property resulting from the establishment of a conservation easement (which reduces property value by limiting its real estate development potential), the cost to its ratepayers from compensating Eureka Energy for this loss in value, and the uncertain outcome of the CPUC’s required review.

Although the 5,000-acre “right of first refusal” area does not provide as much certainty that the land will be permanently protected as the areas PG&E proposes to cover with a conservation easement, Commission staff believes it is appropriate to incorporate as part of the required mitigation. There are strong expectations that state and local interests are largely supportive of ensuring as much of the Diablo Canyon lands receive protection as possible, and the condition requires a conservation easement once an approved purchaser acquires the property. Finally, if no approved purchaser exercises and effectuates the option to purchase the lands, PG&E would be required to submit a CDP amendment to ensure that it provides additional mitigation.

Therefore, with **Special Conditions 1 and 2**, the Commission finds that the proposed renewal of DCPP operating licenses and associated development meets the third test of Section 30260.

F. Public Access and Recreation

Section 30210 of the Coastal Act states:

> In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211 of the Coastal Act states:

> Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30212 of the Coastal Act states (in relevant part):

> (a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

Section 30214 of the Coastal Act states:

> (a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:
>
> (1) Topographic and geologic site characteristics.
>
> (2) The capacity of the site to sustain use and at what level of intensity.
>
> (3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.
>
> (4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.
>
> (b) It is the intent of the Legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution. Nothing in this section or any amendment thereto shall be construed as a limitation on the rights guaranteed to the public under Section 4 of Article X of the California Constitution.
>
> (c) In carrying out the public access policies of this article, the commission and any other responsible public agency shall consider and encourage the utilization of innovative access management techniques, including, but not limited to, agreements with private organizations which would minimize management costs and encourage the use of volunteer programs.

PG&E, along with its wholly owned subsidiary, Eureka Energy Company, owns or controls approximately 12,000 acres in and around the proposed project site, with about 4,000 acres of those lands within the coastal zone (**Exhibit 4**). These Diablo Canyon

lands extend along about 12.5 miles of shoreline and public trust lands, most of which have been off-limits to the public for the 40 years of Diablo Canyon operations. The power plant and most of its supporting infrastructure are located within an approximately 600-acre high security site at about the midpoint of this stretch of coast, and PG&E manages the remaining lands as an additional security buffer around the high-security area. There are limited public access opportunities within these lands, primarily those established pursuant to Commission approvals of previous PG&E CDP applications, as described below. In addition, there is a 2,000-yard radius exclusionary zone that extends from DCPP into the Pacific Ocean. No person or vessel may enter this exclusionary zone without the permission of the Captain of the Port of Los Angeles-Long Beach.[83]

PG&E's proposed relicensing would extend the time during which the public is prevented from accessing shoreline public trust lands and would also forestall other possible uses of these lands for which public access could be included.

As described in PG&E's consistency certification, the two largest areas within the Diablo Canyon lands are the North Ranch and South Ranch. North Ranch extends from the north side of the DCPP site to Montaña de Oro State Park. North Ranch includes areas zoned as Agriculture and Rural Lands, and PG&E has long allowed parts of the area to be used for cattle grazing. North Ranch also includes several miles of managed public access trails that PG&E established pursuant to requirements the Commission established as part of its approval of CDP No. A-3-SLO-O4-035 for the construction and use of a nuclear waste storage facility near the power plant site.

To the south and east of DCPP is the South Ranch, which is owned by Eureka Energy Company. South Ranch (APN 076-15-013) is zoned as Agriculture (AG), except for a 420-acre parcel along the northeast side of the DCPP site that is zoned Public Facilities (PF) (APN 076-151-009). PG&E maintains a grazing license for the South Ranch area, and agricultural activities within this area consist primarily of small-scale agricultural crops and cattle grazing consistent with sustainable practices. Additional lands to the southeast include the Wild Cherry Canyon property, a roughly 2,400-acre property zoned as Agriculture. This property is the subject of ongoing litigation regarding potential development rights and has also long been identified as a conservation priority by several local interest groups.

Other nearby lands and ownerships include the Hibberd Preserve, a 1,400-acre conservation area to the east of the Diablo Canyon lands that is owned by The Land Conservancy of San Luis Obispo County, Port San Luis Harbor to the southeast, and the unincorporated residential community of Avila Beach, about six miles southeast of the DCPP site.

The lands north and south of the Diablo Canyon lands – Montaña de Oro State Park and Avila Beach/Port San Luis – are popular areas that provide significant public access to the coast, with about one-and-a-half million daily visits each year. Coastal amenities

[83] 33 CFR § 165.1155.

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, paddling, 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. To the north, Montaña de Oro State Park includes campgrounds and day-use areas, and has a visitor center along with several hiking, equestrian, and mountain bike trails. These areas to the north and south are served by 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. The existing access is largely provided pursuant to requirements of previous CDPs issued by the Commission, and includes the following:

- CDP No. 4-82-593: In 1983, the Commission approved a CDP for construction of PG&E's Simulator Building, located near DCPP. The CDP required PG&E to develop a public access plan to provide public access within the Diablo Canyon lands. That required plan led to development of, and funding for, the 3.7 mile-long Pecho Coast Trail which runs from the DCPP's southern entrance at Port San Luis to the now-retired Point San Luis lighthouse and then further upcoast to just beyond Rattlesnake Canyon (**Exhibit 4**). The trail ends about four miles south of the DCPP high security exclusion area.

  PG&E's management plan for this trail allows twice-weekly, docent-led, day use-only hikes for up to twenty hikers per hike. 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, narrow beaches, and sensitive habitats along this part of the coast. The trail includes several improvements, such as benches, garbage cans, portable toilets, and it provides several marine mammal observation areas. PG&E sometimes closes portions of the trail during various times during the year – for instance, during seal pupping season or to allow for necessary maintenance.

  One of the trail's cultural features is the Point San Luis Lighthouse, which was originally constructed in 1890 and retired from service in 1974. The Harbor District acquired it at that time and it is now being restored by a non-profit group, the Point San Luis Lighthouse Keepers, to allow public access and education.

PG&E's management tools include limiting the number of hikers each week, allowing hikers with docents only, requesting hikers to pre-register, and providing a pre-visit information package of the guidelines associated with the access, including parking, trail rules and restrictions, and wildlife and security concerns. One aspect of trail management, however, creates an apparent disincentive for public access, as trail users must access the trail by going through PG&E's security gate where they are subject to some of the security measures necessary to protect DCPP, such as an identification check, exposure to automatic weapons, etc., which are measures not generally needed to allow safe and secure public access to the shoreline. PG&E has previously expressed an interest in reducing trail users' exposure to these measures and has proposed moving the trail entrance away from the security gate. Discussions between the PG&E and Port San Luis are ongoing regarding a potential relocation of the trail entrance and realignment of the trail to avoid its current partial use of Lighthouse Road.

- CDP No. A-3-SLO-O4-035: Pursuant to requirements of this 2004 permit for the Diablo Canyon ISFSI, the Commission determined that 1.5 miles of shoreline access was lost because of the presence of the ISFSI (which was assumed to remain in place in perpetuity), and for which mitigation was required. PG&E developed additional areas of public access in the Diablo Canyon lands, which included the following[84]:
    - North Ranch Access: PG&E developed a coastal trail along about three miles of the northernmost Diablo Canyon lands. The trail extends from Montaña de Oro State Park to Crowbar Creek, which is just over a mile north of the DCPP. The trail provides access to at least one beach and three overlooks along this stretch of the coastline. Access is provided in a manner that protects sensitive coastal and cultural resources and allows continuation of the agricultural practices taking place on those DCPP lands. The trail is open for daylight use only and hikers must sign in and out at a PG&E security gate at the State Park boundary.
    - Pecho Coast Trail Access Improvements: PG&E provided improved access to the Pecho Coast Trail by increasing the number of hikes to more than two per week.
    - PG&E developed 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.

[84] The ISFSI is located within the DCPP'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.

- CDPs No E-06-011 and A-3-SLO-06-017: These permits, for PG&E's 2008 Steam Generator Replacement Project (SGRP), required and/or memorialized PG&E's voluntary offer to:
    - Dedicate a public access easement over the road to the Port San Luis Harbor District and contribute $700,000 towards road improvements, such as improving drainage and widening portions of the road.
    - Through a deed restriction, conserve approximately 1,200 acres near Point San Luis by prohibiting most forms of development to preserve the area as open space and to protect the visual qualities of the Pecho Coast Trail and other nearby areas.
    - Provide $300,000 or the equivalent in construction work to remove barriers to public access by relocating the trail and road entrance away from DCPP's security gate.
    - Provide $150,000 towards purchase of a multi-passenger vehicle to facilitate access to the Lighthouse for those with mobility limitations.
    - Contribute $300,000 to the County towards design, permitting, and construction of an accessway between Avila Beach and Port San Luis.
    - Contribute $380,000 to the County towards traffic control devices in Avila Beach.

    These requirements were based just on the amount of lost public access the Commission projected would occur during the then existing DCPP license periods – i.e., until 2024 and 2025. Although PG&E in about 2014 had initiated proceedings to start decommissioning DCPP beginning at the end of those license periods and then completing the decommissioning process from about six to eight years later, the currently proposed relicensing and extended operations will result in access impacts continuing for up to several decades longer.

Relicensing will include PG&E maintaining the existing approximately 600-acre high security area around DCPP, which currently excludes the public from about 1.5 miles of public trust shoreline closest to DCPP. As currently proposed, DCPP's extended operations would also prohibit or severely limit the public's ability to access the rest of the 12.5 miles of public trust shoreline and associated tidelands within the Diablo Canyon lands.

Relicensing would also delay the previously proposed DCPP decommissioning that PG&E had expected to initiate soon after the 2025 end date of its existing license and to complete within about a decade. The NRC regulations governing nuclear power plants decommissioning allow up to sixty years after the end of operations for power plant operators to complete the necessary decommissioning process. To date, 12 commercial power plants have been decommissioned[85] and the range of times between plant

[85] https://www.congress.gov/crs-product/R46820#:~:text=Twelve%20U.S.%20nuclear%20power%20reactors,capacity%20of%20current%20U.S.%20reactors.

shutdown and the known or anticipated completion of decommissioning for these facilities ranges from about three years to thirty-nine years. PG&E anticipates completing the decommissioning process quickly, in large part because longer decommissioning processes are generally more costly; however, it is currently speculative as to how long the process might take. As a result, and based on a 20-year relicensing period and on the above three- to 60-year range of possible decommissioning timelines, PG&E's limitations on public access to the shoreline could extend for another 23 to 80 years (or 2048 to 2105).

Extended operations will also affect public access to the shoreline in public areas beyond the DCPP lands, primarily in areas to the south due to the additional vehicle traffic for the approximately 1,600 permanent employees and contractors that work at and travel to the DCPP site, while additional impacts would occur during refueling and maintenance outages when several hundred additional personnel may be on site for extended periods. Many of the roads in the Avila Beach and Port San Luis area that provide access to DCPP are designated 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 and also serve as emergency evacuation routes in the event of earthquakes, tsunamis, fire, or other hazards.

Because the proposed project is between the first public road and the sea, Coastal Act policies 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.

Coastal Act Sections 30212 and 30214 recognize 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 DCPP high security zone, public access to that area would be inconsistent with public safety; however, as shown through the above-referenced CDPs, it is feasible to provide access to other nearby shoreline areas of DCPP lands if it is managed in a way to ensure security and public safety and to protect fragile coastal resources and agriculture. Therefore, the Coastal Act requires 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 DCPP's 600-acre security zone, access is feasible in the adjacent Diablo Canyon lands under PG&E's ownership. In previous Commission approvals, public access to Diablo Canyon lands has been found consistent with public safety, 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 known to be present[86].

Coastal Act policies clearly establish that public access is to be provided as part of the proposed relicensing. While access is not appropriate within DCPP's high-security zone due to security concerns, it nonetheless can be provided nearby in a manner protective of security, public safety, and other issues of concern.

Proportionality
Judicial decisions interpreting state and federal constitutions require that permit requirements for public access be "roughly proportional" to the loss of public access caused by the project. The analysis to determine proportionality does not have to be exact, but the determination should be based on credible and relevant information.

The "rough proportionality" analysis below is based primarily on two aspects of DCPP's prohibitions and limitations on public access. First, and as described below, DCPP's extended operations are expected to limit access for anywhere from 23 to 80 years (due in part to the extended period expected for decommissioning), and also, that these access limits will extend along 12.5 miles of shoreline that are subject to the public trust. The expected access limits and losses can be quantified in part by evaluating the visitation data from areas immediately north and south of the DCPP land to allow a comparison of what type and amount of public access to the shoreline could otherwise be available but for DCPP's extended operations. The Commission also recognizes the need for a reasonable cap, or "carrying capacity," on visitation, given the environmentally and culturally sensitive nature of much of the DCPP shoreline.

Recent data for annual visitation to the two areas immediately north and south of the Diablo Canyon lands, Montaña de Oro State Park and Port San Luis Harbor, provide a reasonable starting point for determining likely visitation to the Diablo Canyon area. This starting point is then adjusted to reflect several aspects of the proposed project, the requirements of the LCP and the Coastal Act, and the environmental setting. These analyses, including several reasonably conservative adjustments, are described below.

Recent annual visitation to the two areas north and south totaled somewhat over 1.5 million visitors. In 2023, Montaña de Oro State Park to the north had 813,126 (visitors[87] and Port San Luis Harbor to the south had about 800,000 visitors. At both areas, the coastal setting is the main amenity available to visitors, with many of the visits involving hiking, wildlife viewing, fishing, water access, and other relatively passive recreational activities. The coastal lands of Diablo Canyon can be considered at least equally attractive to visitors as the two adjoining areas above, as they represent a relatively unspoiled section of the California coastline with broad coastal terraces and sweeping views along the coast. It is likely that some proportion of these 1.5 million

[86] We also note that the Commission previously approved public access within several dozen yards of two other California coastal nuclear power plants at San Onofre and Humboldt Bay.

[87] https://www.parks.ca.gov/pages/795/files/Official%202022-23%20STAT%20REPORT.pdf

visitors each year would visit the Diablo Canyon lands coastline if access were available, even if access was limited to foot or vessel traffic. This strong interest in pedestrian access is evidenced by the popularity of the Pecho Coast Trail and the Point Buchon Trail.

The Diablo Canyon shoreline is longer than those in the other two areas – i.e., 14 miles versus a total of about six miles in Montaña de Oro and Port San Luis combined. The Diablo Canyon lands are overall not as accessible as these areas, due to the limited road access, so would not be expected to have similar rates of visitation. However, even assuming that increased access to DCPP lands would draw just from this existing "pool" of 1.5 million annual visitors rather than attract new visitors, visits by only 10-20% of these existing visitors would equal about 150,000 to 300,000 additional visitors annually (an average of 400 to 800 visitors per day).

This range of potential additional visitors is a somewhat conservative projection when compared to the projections in the Commission's 2004 findings for CDP A-3-SLO-O4-035. At that time, the Commission found that the security limitations imposed by PG&E's ISFSI project would have the effect of preventing about 275 visitors per day from accessing the 1.5-mile stretch of shoreline within DCPP's high-security area. Applying that ratio to the other 11 miles of shoreline affected by this current relicensing project (i.e., the 12.5 miles of Diablo Canyon shoreline minus the 1.5 miles already accounted for in the 2004 calculation) would result in about 2,000 lost visitor opportunities per day.[88] This overall range, from 400 to 2,000 visitors per day, is conservative in that, as noted above, it assumes visitation is from the existing pool of nearby visitors rather than from new visitors drawn specifically to a newly available and highly scenic coastal access area.

From an economic perspective, and using recent Commission determinations on the typical "beach value per visitor per day" money spent by visitors to the California coast, of between about $30 and $45 per visitor per day, counting these 400 to 2,000 visitors per day that not able to visit these Diablo Canyon lands during relicensing represents from about $12,000 to $90,000 per day, or about $4 million to $33 million per year in lost local revenues.

These projected access impacts and costs can be further adjusted through several factors. As noted previously, the information currently available requires a presumption that the DCPP and its associated security zone would exist at the site for the duration of the relicensing period. Even without knowing the exact date of decommissioning, it is possible to calculate a reasonable range of dates in which decommissioning would occur based on previous or ongoing decommissionings at other facilities. Further, with the ISFSI presumed to be at the site in perpetuity, the limits it places on visitation can also be extended into perpetuity. Further, in recognition of the "carrying capacity" of the DCPP lands and taking into account the sensitivity of the coastal resources present,

[88] 275 visitors in 1.5 miles is about equal to 2,016 visitors in 10 miles.

placing a cap on the levels of visitation required to make up for the DCPP' s losses allows for a reasonable reduction in projecting visitation that might otherwise occur.

- Adjusting for the delay in lost access: The NRC regulations governing nuclear power plants decommissioning allow up to sixty years for power plant operators to complete the necessary decommissioning process. To date, 12 commercial power plants have been decommissioned and the range of times between plant shutdown and the known or anticipated completion of decommissioning for these facilities ranges from about three years to thirty-nine years.

  Based on the existing NRC requirements, the most conservative assumption for decommissioning the Diablo Canyon power plant would be sixty years after the end of the relicensing period, which would be 2104. However, because costs to the power plant operators continue to accrue during the decommissioning process, and because it has been feasible for other power plants to complete decommissioning just a few years after the end of operations, a more reasonable conservative assumption for Diablo Canyon would be somewhere in the mid-range of the three-to-thirty-nine year range noted above, or about twenty years after the power plant ends operations. Based on an end-of-operations date of 2045, decommissioning could reasonably be presumed to be completed sometime around 2065.
- Adjustment for future growth and discounting to present value: Data on San Luis Obispo County growth show that over the last decade, the County has a rate of growth of around 0.4%.[89] Applying this rate of growth to the above-projected mid-range of 400,000 annual visits in 2025 results in future annual visitation rates of about 408,064 in 2030, 416,291 in 2035, 424,684 in 2040[90], and so on. At the end of the relicensing period in 2045, lost visitation would be 433,246 visits per year (this does not account for losses associated with the subsequent decommissioning process).
- Carrying capacity: Recognizing that the other coastal resources in the area would likely be adversely affected by a continually increasing number of visitors, it is reasonably protective to consider a carrying capacity for visitation so that public access to the Diablo Canyon lands is assumed to be at a level consistent with protection and preservation of other coastal resources. A requirement to provide coastal visitation reflecting the 0.4 percent long-term growth rate would result in the level of visitation each year climbing from 400,000 in 2025 to 433,246 twenty years later. Leaving the growth rate out of the analysis does not accurately reflect the realities of increasing demand for visitation along the coast, but applying the growth rate without considering limiting factors could easily lead to adverse impacts to other important coastal resources. Many of these impacts can be avoided or limited using a managed access approach. For example, by limiting access to foot traffic and largely to blufftop and coastal terrace trails, more

[89] https://usafacts.org/data/topics/people-society/population-and-demographics/our-changing-population/state/california/county/san-luis-obispo-county/

[90] The formula is the same as is used to determine compound interest: FV = N(I +p)^t, where FV = Future Value, N =Initial Value, p =percent growth, and n =the number of years.

visitors can be accommodated with fewer impacts than if vehicle traffic were allowed or if access was provided to sensitive beach or rocky shoreline habitat.

A reasonably conservative approach would be to recognize that there are limits to the numbers of visitors the Diablo Canyon lands are able to handle without adverse effects on its other coastal resources or without implementing various forms of visitor-serving development. Determining the capacity of Diablo Canyon lands to handle visitors while concurrently supporting other coastal resources would allow reasonable access to those lands, allow the use of in-lieu fees or development of nearby off-site visitor amenities in support of this access, and ensure conformity to the applicable public access policies to maximize feasible public access.
However, most of those lands include sensitive coastal resources or have land uses such as coastal agriculture that are not compatible with this level of visitation. Further, as noted above, visitation at these levels would likely require substantial infrastructure improvements both within the Diablo Canyon lands and outside them to accommodate this many visitors.

Enforceable Policy Analysis
The requirements of the LCP and Coastal Act establish that public access must be provided as part of the proposed relicensing project. The type and extent of access required is to be established at the time of permit approval and provided concurrent with the proposed project. While access is not appropriate in the immediate vicinity of the DCPP due to security concerns, it may be provided nearby in a manner protective of security, public safety, and other issues of concern.

Considering the high number of potential visitors that have been historically excluded from this part of the DCPP coast, the high economic cost of lost access, and the requirements of the Coastal Act requiring access as part of relicensing, there is no uncertainty that substantial access mitigation must be included if the Commission is to concur with PG&E's consistency certification for its proposed 20-year operating license renewal or approve its proposed CDP for operations through October of 2030.

The DCPP shoreline and the majority of DCPP lands have been off limits to the public since construction of the plant in the 1970s. Even with the access improvements from the ISFSI and Steam Generator Replacement Project CDPs, there are still approximately 12.5 miles of inaccessible coastal bluffs and terraces, and thousands of acres of inaccessible uplands. These areas remain largely undisturbed and if preserved through protective measures such as a conservation easement could provide for a wide variety of access experiences. Also, as discussed in more detail in the Cultural Resources Section below, the DCPP lands are the ancestral home of the Chumash people and evidence of Chumash habitation has been found at several sites in the Diablo Canyon lands. A thoughtfully structured conservation easement for public access could also protect sensitive cultural resources.

The Commission acknowledges the need to ensure public safety and to protect coastal resources. The Commission also notes that it has previously required PG&E to provide public access amenities as part of previous CDP approvals for DCPP that involved a similar scale of development as defined by the Coastal Act and CCMP. The public has been excluded from this area of the coast since DCPP began operating in the mid-1980s, except for the access improvements approved by the Commission for projects involving the DCPP's administrative building, its ISFSI, and its steam generator replacement. Renewed operations will continue to prevent the public from accessing and recreating in these areas. Therefore, the Commission cannot rely upon the amenities previously required in other Commission actions.

The Commission also finds that necessary public access can be provided without compromising the public safety and security functions of PG&E maintaining its approximately 600-acre high security area around DCPP and the additional approximately 2000-yard radius offshore safety zone imposed by the U.S. Coast Guard due to the presence and operation of the plant. The Diablo Canyon lands surrounding DCPP provide more than ample space to plan for and provide access amenities, while not hindering or threatening PG&E's operations. Second, PG&E has previously provided public access amenities within the Diablo Canyon lands north and south of DCPP, which PG&E uses as an additional security buffer. This access, including the Pecho Coast Trail, and the North Ranch trail system, has been provided without compromising public safety and in a manner protective of fragile coastal resources. Third, PG&E has previously proposed eliminating or reducing the size of this security buffer to encompass a much smaller area near DCPP, so this existing buffer should not be considered a deterrent to facilitating access. Lastly, access could be planned and provided in a way that identifies and avoids potential conflicts with fragile coastal resources. This approach for careful planning of access and recreation within DCPP lands is envisioned in the Draft Environmental Impact Report (DEIR) prepared by the County for decommissioning of DCPP.[91]

Proposed Mitigation

In response to the adverse impacts to coastal access resulting from the proposed extended operation of DCPP and Coastal Act and CCMP policies requiring maximization of coastal access, PG&E has included within its consistency certification and CDP application a land conservation and public access mitigation package. This mitigation includes four main elements and would be implemented in two phases. Phase 1 would mitigate for operation of DCPP's Units 1 and 2 through October of 2029 and 2030, respectively, and includes (1) establishment of a conservation easement over approximately 1,100 acres of the "North Ranch" portion of PG&E's property directly adjacent to Montaña de Oro State Park; (2) an offer to dedicate a public access trail easement for over roughly ten miles of new trail alignments (most of which would be located on existing ranch roads that PG&E would continue to maintain and thus require

[91] The DEIR for decommissioning does not include any specific condition language. Rather it includes a discussion on the nexus and proportionality for requiring a condition and defers specifics until a potential San Luis Obispo County Planning Commission meeting.

minimal construction activities prior to use); (3) establishment of a right-of-first-refusal for government or non-profit land conservation organization purchase of the lands within the 5,000 acre “South Ranch” portion of the Diablo Canyon property owned by PG&E’s subsidiary, the Eureka Energy Company; and (4) an offer of $5.6 million to accompany the trail easement to be used for planning, construction, maintenance and management of the public access trails. Phase 2 of PG&E’s proposed mitigation would be triggered by operation of DCPP beyond the dates of the current California Public Utilities Commission approval and include an additional conservation easement over approximately 2,200 more acres of North Ranch and an additional offer to dedicate a public access trail easement for more than 15 additional miles of trail alignments, including a combination of two trails covering roughly 13 miles that would provide through-trail access across the Diablo Canyon lands to connect Montañ̨a de Oro State Park to Port San Luis, further extending the California Coastal Trail. While the land conservation elements of the proposed mitigation – establishment of conservation easements and a right of first refusal for purchase of South Ranch – are intended to help offset DCPP’s adverse impacts on marine biological productivity, the establishment of proposed trail easements for up to about 25 miles of new public access trails would address the adverse impacts to public access from extended operation of DCPP and the requirements for maximization of public access included within the Coastal Act and CCMP’s enforceable policies. PG&E’s commitment for an offer to dedicate public access trail easements across the Diablo Canyon lands is memorialized through **Special Condition 3**. This special condition also establishes a variety of the specific details needed to implement PG&E’s commitment and help ensure it provides the maximum amount of mitigation and benefits to the public in terms of expanded coastal access and recreation opportunities.

This proposed mitigation also directly aligns with the community goals identified in the Diablo Resources Advisory Measure, the “DREAM Initiative” which passed with support from almost 75 percent of San Luis Obispo County voters in March of 2000 and called for the Diablo Canyon lands to be recognized “as an exceptionally precious coastal resource” and to be set aside for habitat preservation and public use. These enduring community and stakeholder goals and values were captured again more recently in the May 2023 Diablo Canyon Power Plant Land Conservation and Economic Development Plan, prepared by the California Natural Resources Agency pursuant to SB 846.

As shown in **Exhibit 5**, the trail alignments proposed by PG&E would generally traverse the range of hills and peaks throughout the Diablo Lands beginning at or near sea level along the coastal bluffs at Point Buchon and San Luis Harbor and reach elevations as high as 1,200 feet. On North Ranch, a new trail alignment would be established following an existing dirt road, the Buchon Hills Trail Concept, from approximately the border of Montaña de Oro State Park up to and along the ridgeline in a southerly direction, traversing the Bishop Pine forest on the ridge and providing expanded views to both the ocean and to the state park and Morro Rock in the distance. PG&E also proposes a connecting trail alignment along the existing dirt ranch road directly through

Crowbar Canyon, the Crowbar Canyon Trail Concept to connect the existing Point Buchon Trail to the proposed Buchon Hills Trail alignment, as well as backcountry connectors to the existing Coon Creek Trail and potentially, to the Alan Peak Trail on Montaña de Oro State Park to the north. The Coon Creek Connector concept and potential Alan Peak Connector concept, would traverse down and back up the steep canyon separating the state park from the Diablo Canyon lands and require careful siting and construction. In addition, the proposed Alan Peak Connector would likely need to also cross the federal lands held by the U.S. Bureau of Land Management that adjoin the state park and PG&E's property, as shown in **Exhibit 5.** As such, establishment of this trail is more conceptual than the others as it would be contingent upon future coordination and partnership with both the California Department of Parks and Recreation and the U.S. Bureau of Land Management and is proposed as part of the second phase of PG&E's proposed mitigation. For example, **Special Condition 3** provides a process for addressing any adjustment or refinement needed to PG&E's proposed trail alignment locations and configurations in order to ensure adverse impacts to coastal resources are avoided and minimized and to facilitate trail use and maintenance. Further, the condition also requires that the Executive Director review and approve the terms of the trail easements as well as the easement holder to help ensure that appropriate coastal resource protections are established and benefits to coastal access and recreation are maximized.

At South Ranch, PG&E proposes two new trails, creating a three- to four-mile scenic loop trail opportunity to and around the top of San Luis Hill overlooking San Luis Bay. Along with the trail easement for those trail alignments on North Ranch described above, the proposed easement for these trails on San Luis Hill would be established as part of PG&E's Phase 1 mitigation proposal for operation of DCPP through October of 2030. The approximate total length of trail easements included within this phase of the mitigation would be nearly ten and a half miles.

If DCPP operations beyond 2030 are authorized by the California Public Utilities Commission and PG&E subsequently amends its CDP to continue operating, it proposes to implement an additional phase of mitigation that would include establishment of roughly 15 miles of further trail easements for future trail alignments. Primary among these trails would be the Diablo Canyon Trail concept, a nearly ten-mile-long alignment that would cross through both North Ranch and South Ranch and, in combination with either a short proposed South Ranch Connector trail or a more extended alignment through a portion of Wild Cherry Canyon, connect the Point Buchon Trails with the Pecho Coast Trails. This would provide a trail easement for a roughly 18-mile-long through-trail alignment connecting Montaña de Oro State Park to the north with Port San Luis to the south. The alignment through Wild Cherry Canyon would be contingent on resolution of the ongoing litigation involving that property and/or an arrangement between PG&E and the leaseholder.

In its CDP application, PG&E also proposes a realignment of the existing Pecho Coast Trail and new trailhead. A segment of the existing Pecho Coast Trail begins near the DCPP entrance station located at Diablo Canyon Road. After several short switchbacks the current trail connects with Lighthouse Road for approximately 0.5 miles and then continues along a designated trail to the Point San Luis Lighthouse. Lighthouse Road is occasionally used by cars which creates a safety risk and potential user conflict with hikers and the co-location of a trail segment on the road also detracts from the experience of hiking the Pecho Coast Trail. PG&E proposes to construct a new staircase entrance to the Pecho Coast Trail beginning at the Port San Luis parking lot west of the Hartford Pier and connecting directly to the spur of the Pecho Coast trail leading to the lighthouse, thus eliminating the need for hikers to use Lighthouse Road to reach the trail and providing a trailhead location separate from the often busy Diablo Canyon access gate and road. Implementation of this proposal would require additional coordination between PG&E and Port San Luis as well as potential authorization from San Luis Obispo County.

The majority of these new proposed trail easements and alignments would make use of existing fire roads, ranch roads, and cattle trails. This means that development of the trails would require less intensive planning, would more likely have minimal or no adverse impacts to coastal resources, and would require less effort and time to construct and maintain the trials. As such, using these existing routes would help to ensure that the trails can be completed and open to the public more quickly. Additionally, to maximize public access and trail use, it is expected that the proposed trail alignments would support multiple types of trail users, including hikers, mountain bikers and equestrians, unless determined to be infeasible in certain sections due to topography or logistical challenges. For example, equestrian access from Port San Luis appears infeasible due to the presence of stairs on the trails, safety considerations and trailer parking limitations. Proposed trail connections on North Ranch between the PG&E property and existing state park trails open to equestrian use, however, would provide a means of access to the proposed trails in that area. PG&E has also stated that it would continue to carry out maintenance of the ranch roads on the Diablo Canyon lands to facilitate their continuing use associated with power plant operations and management.

The combined result of the two phases of PG&E’s proposed mitigation would be roughly 25 miles of new trail easements. This would set the stage for a nearly unprecedented opportunity to create and expand public coastal access and recreation resources along California’s central coast and to accomplish the long-standing community vision of having the stunning natural and scenic resources of the Diablo Canyon lands shared with the public. PG&E’s decades long stewardship of the lands outside of the DCPP site has contributed to the preservation of these resources and its proposal to establish trail easements and facilitate expanded access would significantly benefit the public. However, it should be noted that PG&E’s mitigation proposal only includes an offer to

dedicate trail easements and to allow their use for public access. Construction, establishment, management, maintenance and opening of trails to the public would require substantial funding both long- and short-term (although the proposed alignment of many trails on existing ranch roads should facilitate and expedite their completion) and necessitate a capable, experienced and well-resourced land management agency or organization to take on the easements and move forward with establishment of the envisioned trails. While the $5 million provided to the California State Coastal Conservancy in 2024 for land conservation and public access planning of the Diablo Canyon lands provides an opportunity to advance the work of bringing PG&E's proposed trails to fruition, additional efforts and funding are also needed. **Special Condition 6** requires PG&E to provide funding in the amount of $5.5 million for the public access easements specified Special Conditions 3 and 4 for the planning, development, management, improvement and maintenance of the access trails, and to provide funding of $100,000 for the administration costs associated with the easement funding.

The two other primary elements of PG&E's land conservation and access mitigation package would also provide benefits to public access. The conservation easement would include specific language that restricts development to protect fragile coastal resources (e.g. terrestrial resources in relation to the marine ecosystem as discussed in more detail in Section E above as well as cultural resources as discussed in Section J). **Special Condition 1** would require that following license renewal by the Nuclear Regulatory Commission, PG&E would execute and record an irrevocable offer to dedicate a conservation easement to a public agency or a non-profit land conservation organization. The easement would also provide for public access and recreational uses and specify that no development as defined in Section 30106 shall occur within the easement area except for public access, habitat protection, open space, agriculture, and tribal access. The easement would also allow for maintenance of existing power transmission right-of-ways and access to PG&E facilities.

The right of first refusal element of PG&E's mitigation proposal for the roughly 5,000 acres of South Ranch would provide public agencies and non-profit land conservation organizations the opportunity to purchase the lands with the condition that such purchase shall be for the purpose of habitat protection, as well as for open space protection, public and tribal access (including but not limited to Tribal ceremonial use, Tribal gathering of natural materials, trails, signage, benches and restroom facilities). This would increase the likelihood that these lands would end up in public ownership, thus further facilitating their future use and enjoyment by the public.

In summary, PG&E's proposal includes a conservation easement over approximately 1,100 acres of North Ranch, a right-of-first-refusal over 5,000 acres of South Ranch, and public access easements covering approximately ten miles of new trail alignments, for Phase 1 of DCPP operations through October 2030. If DCPP obtains authorizations to operate beyond October 2030, the proposal includes a conservation easement over

an additional approximate 2,200 acres of North Ranch and public access trail easements covering roughly 15 additional miles of new trail alignments, which includes trails connecting the existing Point Buchon Trail and the existing Pecho Coast trail, resulting in a roughly 18 mile coastal trail across the entirety of the Diablo Canyon property connecting Montaña de Oro State Park to Port San Luis.

When considering the history of other projects at DCPP reviewed by the Commission and the other public access amenities incorporated into those projects, the proposal included in this project represents a substantial offer for conservation and public access and recreation within the Diablo Canyon lands.

Therefore, only as conditioned, the Commission finds that the proposed project would provide and manage public access and recreation such that it conforms to Sections 30210, 30211, 30212 and 30214 of the Coastal Act.

G. Cultural Resources

Section 30244 of the Coastal Act states:

> Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

The Diablo Canyon area is the ancestral home of the Chumash people. The history of the Chumash people in regard to the region in and around Diablo Canyon is described in the NRC EIS as follows:

> The project area is within the traditional homelands of the Chumash, specifically the Northern Chumash...
> ...
> At the time of contact, the Chumash were one of the most populous and socially complex Indigenous groups in California. Their traditional territory ranged from the Pacific Coast west to the Coast Range east and from the Santa Maria River south to Point Estero, north of Diablo Canyon (Price and Clark 2019-TN10294). The Northern Chumash appear to have had smaller population densities in comparison to other Chumash in the region...
> ...
> Spanish explorers began to arrive in the now-Mexico area in the 1500s but did not attempt to occupy the area until the 1700s. To settle the “new” territory, the Spanish Crown established missions and presidios (fortified settlements) to control New Spain, today’s Mexico and Baja California. Additional missions were ordered to be constructed in Alta California (now California) in 1768. Historic accounts from the Portolá and Anza expeditions in 1769 and 1775 record them passing along San Luis Obispo and stopping by Chumash settlements (Price and Clark 2019-TN10294). Spanish encroachment in native territories was detrimental. The

> Spanish restricted access to areas important for foraging and resource procurement. The introduction of European plants and animals impacted the local ecology. Further, Native Californians were exposed to diseases they had little resistance to, ultimately decimating their populations.
>
> The establishment of San Antonio de Padua (1771), San Luis Obispo de Tolosa (1772), and San Miguel Arcángel (1797) in the San Luis Obispo area significantly disrupted the Chumash's social, economic, and political structure (Price and Clark 2019-TN10294)...

History of Chumash habitation on the Diablo Canyon lands was acknowledged during Commission staff's Tribal Consultations and evidence has been found at several sites on the Diablo Canyon lands, including a major site within the area of Parcel P. During staff consultation with representatives of the yak tityu tityu yak tiłhini – Northern Chumash Tribe (ytt Northern Chumash), as discussed further below, the ytt's strongly held position was communicated that although there are nearly a dozen identified Chumash Tribal groups, it is the one and only Tribe with ancestral linkages to these sites. PG&E staff have indicated that they share this position and have taken steps to accommodate access to the Diablo Canyon lands for ytt Northern Chumash Tribal Chairwoman, Mona Olivas Tucker, and other representatives of the ytt Northern Chumash Tribe. It should be noted that PG&E's project and mitigation proposal would not alter this access arrangement and that it would be further reinforced through the Special Conditions established to implement it, which include Tribal access as a specifically allowed use within the conservation easement and "right of first refusal" areas.

The results of prior archaeological studies and surveys at DCPP are described in PG&E's Environmental Report as follows:

> There were multiple archaeological studies conducted in the vicinity of DCPP prior to the construction of the DCPP plant site. Important surveys and work in the immediate vicinity on the 12,000 total acres of PG&E OCA known as the "Diablo Canyon Lands" began with an excavation of CA-SLO-50, the Pecho Site, by the County of Los Angeles Museum in 1929, for which there is no report. This, followed by Pilling's 1951 Surface Archaeology of the Pecho Coast County of San Luis Obispo, California, gives insight into study of the archaeology of the region and prompted concern for the archaeological sites in the vicinity.
>
> Archaeological survey work within the DCPP plant site began in 1966 with Francis Riddell's initial archaeological survey and continued with the foundational excavations conducted by Roberta Greenwood in 1968. Information concerning the 52 cultural resources surveys and cultural resource management compliance reports within the 750-acre DCPP site is presented in Table 3.8-1. The result of the archaeological work both onsite and in the surrounding lands was the listing of site CA-SLO-2/3 on the NRHP, and inclusion of sites CA-SLO-61, -1159, -1161, -1162, -2865, and -2866 as contributing elements of the archaeological District, and the

> determination of the resources CA-SLO-584 and -1163 are destroyed and are not contributing elements of the District. The 52 reports form the basis for the cultural resources recorded within the 750-acre DCPP plant site. However, PG&E conducts additional monitoring efforts within both the DCPP plant site and surrounding area of the NRHP District on PG&E controlled lands. Annual cultural monitoring activity reports are available from 2010 to present for activity within the DCPP plant site. PG&E continues to follow the obligations of the cultural resources agreements by continually updating cultural resource monitoring and reporting.

Operations at DCPP would continue to use existing facilities and no new construction of facilities at DCPP are planned or included in the project description for extended DCPP operations that would involve ground disturbance or excavation. Further, as PG&E describes in its Environmental Report, the company maintains protocols for the protection of cultural resources in the event of an inadvertent discovery. These protocols include screening practices, education of PG&E employees and contractors regarding inadvertent discovery, and cultural resource BMPs. PG&E also maintains resource management agreements and procedures in place to protect known cultural resources.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), the NRC provided consultation letters to the Barbareño/Ventureño Band of Mission Indians, Coastal Band of the Chumash Nation, Chumash Council of Bakersfield, yak tityu tityu yak tiłhini – Northern Chumash Tribe (ytt Northern Chumash), Northern Chumash Tribal Council (NCTC), Salinan Tribe of Monterey & San Luis Obispo Counties, Santa Ynez Band of Chumash Indians, the Tule River Indian Tribe, and the Xolon-Salinan Tribe. The ytt responded by accepting an invitation to consult and requesting a meeting in person. The Santa Ynez Band of Chumash Indians responded by requesting formal consultation. Responses were not received from the other tribes.

Below are summaries NRC provided of its consultations with the ytt Northern Chumash and Santa Ynez Band of Chumash Indians:

> The NRC staff met with the ytt on six occasions: February 8, March 21, April 5, September 30, and November 20, 2024, and April 24, 2025 (NRC 2024-TN10313, NRC 2024-TN10314, NRC 2024-TN10315, NRC 2024-TN11951, NRC 2025-TN11981). On February 8, 2024, the NRC staff discussed with the ytt the proposed action of Diablo Canyon LR, the NRC's environmental and cultural resources review processes, and the NRC's regulatory authority. Additionally, the NRC staff learned about the ytt's history of interactions with PG&E and various State agencies. In the meeting, the ytt provided two reports to include in the NRC's environmental review. The ytt also requested that PG&E conduct a cultural resources study in coordination with the ytt. On March 21, 2024, the NRC staff continued its discussion with the ytt on the proposed action and shared key dates and methods available for engagement. The ytt discussed their sovereignty and their demonstrated ancestral ties to the Diablo Canyon Lands and shared their concerns about consultation. Additionally, the ytt reiterated their desire for an

agreement and additional archaeological survey of the Diablo Canyon Lands. On April 5, 2024, the NRC staff again discussed, this time virtually, with the ytt the proposed action, as well as the separate action of the ISFSI license renewal. The ytt inquired about the previous archaeological surveys conducted on the Diablo Canyon Lands and what areas within the APE were still intact. The ytt requested copies of all archaeological surveys available, preconstruction photos of the area, and maps of recorded sites within the Diablo Canyon Lands. PG&E notified the NRC on May 15, 2024, that the requested files were provided to the ytt. At the September 30, 2024, meeting, the ytt discussed recommendations related to their review of PG&E's ER, which was submitted to the NRC on November 7, 2023 (NRC 2024-TN11951). The ytt offered several recommendations related to wording in the ER, provided clarifications on historical discussions, and identified areas where they believe information should be reviewed for accuracy or updated to reflect recent documentation related to the ytt and Diablo Canyon Lands (i.e., the 2018 Governor's State Historic Preservation Award and the 2020 Johnson ethnographic study). The ytt also shared their desire for an update to the 1982 access agreement to reflect the current practice for notifications. Finally, the ytt provided comments related to the consideration of the ytt with respect to the issues of environmental justice and socioeconomics (NRC 2024-TN11951). The NRC met with the ytt on November 20, 2024, to discuss the ytt's preliminary comments on the draft SEIS, and again on April 24, 2025, to discuss the NRC staff's resolution of the ytt's comments (NRC 2025-TN11981).

The NRC staff met with Sam Cohen, representing the Santa Ynez Band, on March 23, 2024 (NRC 2024-TN10316), and with their archaeologist Wendy Teeter on May 10, 2024 (NRC 2024-TN10317). The NRC staff discussed with Mr. Cohen the proposed LR. Mr. Cohen shared two copies of the book Chumash Renaissance by Paul H. Gelles and a list of Tribal representatives who may be helpful during the review of the LR application. Mr. Cohen requested hard copies of the draft and final SEIS when they are published. The NRC staff discussed with Santa Ynez Band archaeologist Wendy Teeter the Diablo Canyon Lands cultural resources, previous archaeological surveys completed in the area, and any potential concerns with the proposed LR. Ms. Teeter shared the Santa Ynez Band's work on proposing Morro Rock (Lisamu') as a TCP and potentially having the entirety of Diablo Canyon's coastline as a Traditional Cultural Landscape. Ms. Teeter requested copies of the Enright et al. 2021 report and the Johnson 2020 ethnographic survey for her records (NRC 2024-TN10317).

On April 22, 2025, the NRC staff held a virtual meeting with representatives of PG&E and provided an update on the status of NHPA Section 106 consultations and discussed revisions made to the historic and cultural resources section of the draft SEIS as a result of comments received during the public comment period (NRC 2025-TN11982). The NRC staff met with PG&E and the ytt on May 15, 2025, to facilitate a discussion related to a site access request received as part of the ytt's comments on the draft SEIS (NRC 2025-TN11983).

The NRC's draft Supplemental Environmental Impact Statement states that "the proposed [license renewal] action will result in no adverse effect to historic properties, as defined in 36 CFR 800.5(b) (TN513). The undertaking would also not adversely impact the Rancho Archaeological District or historic and cultural resources.[92]

As part of the Coastal Commission's review of PG&E's consistency certification for the proposed license renewal and associated CDP application, Commission staff reached out to Tribes with potential cultural connection to the project area, as indicated by the list provided to Commission staff by the Native American Heritage Commission (NAHC). Consultations invitations were emailed and mailed initially on January 3, 2024, and again on May 5, 2025, to the Coastal Band of the Chumash Nation, Chumash Council of Bakersfield, yak titᵛu titᵛu yak tiłhini – Northern Chumash Tribe (ytt Northern Chumash), Northern Chumash Tribal Council (NCTC), Salinan Tribe of Monterey & San Luis Obispo Counties, Santa Ynez Band of Chumash Indians, Tule River Indian Tribe, and the Xolon-Salinan Tribe. Commission staff received responses from the ytt Northern Chumash Tribe, the Santa Ynez Band of Chumash Indians, and the Xolon-Salinan Tribe. In their responses, the ytt Northern Chumash requested formal consultation while neither the Santa Ynez Band of Chumash Indians nor the Xolon-Salinan Tribe requested consultation.

Commission staff held a consultation with the ytt Northern Chumash on July 9th, 2025, via virtual meeting. The consultation began with opening remarks by Chairwoman Mona Olivas Tucker and introductions, followed by a description by Commission staff of the project, jurisdiction of the various federal and state regulatory agencies, and the project timeline. The consultation covered a range of topics, including consideration of potential impacts to cultural resources, Senate Bill 846, the Commission's review of a consistency certification and CDP application by PG&E in a combined action, the requirement for mitigation for adverse impacts to coastal resources that cannot be avoided, and previous actions on DCPP projects by the San Luis Obispo County (County) Board of Supervisors, including the condition required by the County in 2020 for a genealogy study which resulted in a report, entitled "Descendants of Native Rancherias In the Diablo Lands Vicinity: A Northern Chumash Ethnohistorical Study," prepared by Dr. John Johnson at the Santa Barbara Museum of Natural History (Johnson Report). The ytt Northern Chumash representatives stated that the Johnson Report establishes its connection to the project area, conveyed its strongly held position that it is the only Tribe with ancestral connections to the Diablo Canyon lands, and stated that Commission staff should not reach out to or invite consultation from any other Tribe[93]. The consultation ended with ytt Northern Chumash representatives indicating their desire for additional consultation at a later date. Commission staff

[92] NRC, Final SEIS, p. 3-158 (June 2025).

[93] While Commission staff understand and respects the ytt Northern Chumash Tribe's position, it also takes seriously its commitment to implement the Commission's 2018 Adopted Tribal Consultation Policy (Consultation Policy) and to carry out meaningful engagement and consultation with all Tribes identified by the Native American Heritage Commission, the relevant expert agency, on its list of interested and potentially affected Tribes in a project's geographic area. As established in the Consultation Policy, this list is used to guide Commission staff's consultation process and the Tribes to include in it.

indicated that it would work to schedule additional consultation later in its review process and shared materials requested by ytt Northern Chumash representatives including the Commission's Tribal Consultation Policy, copies of Commission staff reports for previous DCPP projects, and copies of reports provided by PG&E as part its application.

On October 2, 2025, Commission staff sent letters to the tribal entities referenced above to follow up on consultation efforts. As of the date of this staff report, Commission staff have not received any responses to the October 2nd letters nor any requests for further consultation from the ytt Northern Chumash Tribe.

Finally, Tribal consultation also occurred in accordance with SB 846 when on January 19, 2023, staff of the California Natural Resources Agency sent tribal consultation emails to geographically and culturally affiliated tribes of the area. As part of that effort, Commission staff participated in a joint tribal consultation meeting on February 1, 2023, with California Natural Resources Agency staff and staff of the California State Lands Commission.

Section 30244 of the Coastal Act states that where development would adversely impact cultural resources, reasonable mitigation measures shall be required. Although the extended operation of DCPP does not include any development that would adversely impact cultural resources, the conservation easement and right of refusal proposed by PG&E to help mitigate for the adverse impacts to marine biological productivity resulting from the extended operation of DCPP would have the added benefit of prohibiting development on Diablo Canyon lands that could adversely affect tribal cultural resources. Essentially, PG&E's proposal would preserve several thousand acres of the Diablo Canyon lands as undeveloped open space and thus help protect the Tribal cultural resources and sites present on the lands from disturbance or damage resulting from residential, commercial or industrial development and associated activities. In addition, the special conditions requiring implementation of PG&E's the conservation easement and right of first refusal proposals specifically provide for Tribal access to the Diablo Canyon lands, including ceremonial uses and practices to help ensure that such uses can occur on areas from which Tribes may have been excluded.

PG&E is also proposing an offer to dedicate a total of over 25 miles of public access trails across Phases 1 and 2 of operations, as shown in **Exhibit 5**. This exhibit provides conceptual alignments for the trails selected by PG&E, largely based on avoidance of the area surrounding the DCPP facility and the location of existing ranch access roads and cattle trails that it expects could be used to facilitate public access. PG&E also maintains a catalogue and knowledge of sensitive cultural sites on the Diablo Canyon lands and intentionally configured the proposed trail alignments to avoid such areas and maintain significant buffers around them. For example, no proposed tail alignments are located along the coastal portion of South Ranch due to the presence of several culturally significant sites within that area. However, no extensive environmental analysis or planning of the trail alignments has been done yet and would need to be completed to help ensure damage or disturbance of sensitive sites is avoided once

PG&E's proposed offer-to-dedicate trail easements is accepted and the accepting entity moves forward with trail establishment.

Trails have the potential to adversely impact cultural resources in several ways. First, construction of the trail including grading, excavation, and compaction may inadvertently unearth or destroy sensitive coastal resources within an area. Second, trails encourage public access and trails constructed too close to a known cultural resource area result in the public knowingly, or unknowingly, visiting a site and possibly disturbing cultural resources. As such, it is important for any proposed trail, especially in an area as culturally sensitive as the Diablo Canyon lands, to be carefully and thoughtfully planned and constructed to avoid and/or minimize any potential adverse impacts to cultural resources. The existing Pecho Coast and Pt. Buchon Trails were established with such considerations in mind and demonstrate that public access can be compatible with cultural resource protection in this area.

Additionally, as noted above, many of PG&E's proposed trail alignments make use of existing fire roads, ranch roads, and cattle trails. This means that development of the trails would require less intensive planning, would more likely have minimal or no adverse impacts to sensitive cultural resources, and would require less effort and time to develop and maintain. Although use of existing roads and trails would minimize the potential for adverse impacts to cultural resources, **Special Condition 3** would also require the entity that accepts the trail easements to determine the exact alignments of the public access trails and any necessary and reasonable restrictions to avoid significant impacts to environmental or cultural tribal resources, subject to the review and approval of the Executive Director. That review would be additionally informed by Tribal consultation and the relevant results of the California State Coastal Conservancy's Diablo Canyon Land Conservation Planning effort (Project No. 23-085-01) available at that time. This ongoing effort would also provide an opportunity for Tribal input and concerns to be addressed.

Tribal Land Return

Although not specifically raised by representatives of the Tribes that responded to Commission staff's outreach efforts and requests for consultation, publicly available information indicates that several of the Tribes included on the Native American Heritage Commission's California Tribal Consultation List for the project area, including the ytt Northern Chumash Tribe, the Salinan Tribe of San Luis Obispo and Monterey Counties, the Coastal Band of Chumash, and the Northern Chumash Tribal Council, are interested in and/or pursuing efforts to obtain lands within areas of ancestral territory or historical interest. Such pursuits can be considered Tribal Land Return or Land Back efforts in which ancestral territory is returned to Tribes. Such efforts were also acknowledged during the development of the California Natural Resources Agency's May 2023 "Diablo Canyon Power Plant Land Conservation and Economic Development Plan." That plan identified that:

> The State has a unique opportunity to continue to preserve a pristine environment, conserve important cultural resources, and allow beneficial recreation, access, and

> [industrial facility] reuse on some lands. Significant alignment on the guiding values for future use of the Diablo Canyon Lands is apparent through extensive stakeholder and public feedback. These guiding values... reflect a broad sentiment across stakeholders and public input, not necessarily the Administration. These guiding values should be considered in any decision-making process used to determine the future use of the Diablo Canyon Lands.

Included among the five enumerated values, is “Support transfer of ownership of North Ranch and South Ranch to California Native American tribal ownership.” Expanding on this value, the plan notes

> California policy, including Governor Gavin Newsom’s Statement of Administrative Policy on Native American Ancestral Lands, the California Public Utilities Commission Tribal Land Transfer Policy, and the Pathways to 30x30 Strategy, direct and/or recommend return of ancestral lands to tribal stewardship when possible to redress historical wrongs committed against tribes, strengthen protection of cultural resources, and restore healthy conditions to our environment.

Critically, the plan also provides guidance on implementation of this value and its alignment with another value established in in the plan and consistently identified by a broad coalition of community groups, stakeholders and members of the public, “Foster the robust conservation of environmental and cultural resources while enabling appropriate public access.” This guidance states that

> Another important consideration on the future use of the Diablo Canyon Lands is the appropriate sequencing of multiple transfers of property interests in the parcels. For conservation and resource protections to be perpetual and binding, a conservation easement must be granted and recorded before any fee interest or other property interest in the parcels is transferred.

PG&E’s proposed project would not result in potential adverse impacts to cultural resources. Thus, mitigation specifically directed at cultural and tribal resources – such as a requirement for PG&E to pursue the return of its lands to Tribes - would not be compelled under the Coastal Act or CCMP. However, it is important to note that the special conditions that would implement PG&E’s mitigation proposal (Special Conditions 1 and 2) also would not preclude a Tribal Land Return outcome. Importantly, and consistent with the land conservation value cited above, these conditions would additionally require establishment of conservation easements on the land to achieve habitat protection and preservation of open space by precluding residential, commercial and industrial development, regardless of the entity holding title to the properties. As described in prior sections of these findings (particularly those focused on the Coastal Act’s marine biological resources and coastal-dependent industrial override policies), only through establishment of these land protections and conservation easements would the proposed relicensing and extended operation of DCPP comply with the Coastal Act and the enforceable policies of the CCMP.

Conclusion

The project, with inclusion of **Special Condition 3**, is consistent with the mandate of Section 30244 to protect cultural resources.

H. Hazards

Section 30253 of the Coastal Act states (in relevant part):

> New development shall:
>
> (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
>
> (b) 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…

Section 30235 of the Coastal Act states:

> Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fishkills should be phased out or upgraded where feasible.

The proposed project involves development, including the continued use and operation of the seawater intake system and numerous other buildings and structures necessary for the on-going operation of DCPP, in an area subject to significant geologic and coastal hazards, including seismic activity, tsunamis, coastal erosion and sea level rise. Although the Commission is proscribed from applying Section 30253 – or any section of the Coastal Act – to issues related to nuclear and radiological safety, the continued operation of DCPP and proposed use of structures and facilities must still minimize hazards and assure geologic stability and structural integrity for the duration of the proposed relicensing in order to conform to the hazards policies of the Coastal Act. The analysis and findings below relate to the susceptibility of the proposed development to geologic hazards pursuant to the Coastal Act but do not attempt to address the consequences of these hazards in terms of nuclear safety.

Geologic Hazards

The DCPP site is subject to several significant geologic hazards that have the potential to affect the proposed activities and development. These include strong seismic shaking, tsunami, landslides, and fault rupture hazard. The site geologic hazards are

summarized in this section and described in greater technical detail in a Technical Memorandum by Commission Engineering Geologist Philip Johnson in **Appendix C**.

Seismic Ground Shaking Hazard

The most significant geologic hazard at the DCPP site is the potential for strong seismic ground shaking related to earthquakes on nearby faults. Ground shaking has been a concern since the establishment of the plant, and the subject of several previous studies and assessments by PG&E and others, with understanding of the nature and degree of the hazard evolving over time. The Commission has previously evaluated seismic hazards at the site on several occasions, notably in its review and approval of the ISFSI in 2005 (CDP No. A-3-SLO-04-035) and more recently in an amendment to that CDP in 2023 (CDP No. A-3-SLO-04-035-A1). The Commission's January 8, 2005, adopted findings for the ISFSI CDP summarized prior ground shaking hazards assessments as follows:

> Originally, two design basis earthquakes were considered to establish the seismic design criteria of the Diablo Canyon power plant. These were a magnitude 7.25 earthquake on the Nacimiento Fault (20 miles from the site) and a magnitude 6.75 aftershock associated with a large earthquake on the San Andreas Fault, and centered on the power plant site. With the 1972 discovery of the active Hosgri Fault, a new design basis earthquake was needed. USGS and others argued that the M 7.0 Lompoc earthquake had been associated with the Hosgri Fault, and recommended that the Hosgri be considered capable of a M 7.5 earthquake, for conservatism. The ground motions that would be produced at the site by such an earthquake were calculated, given appropriate attenuation models and site characteristics, as a Peak Ground Acceleration ("PGA") of 0.75 g.[94] PG&E then reanalyzed and upgraded the power plant components to be able to accommodate this ground motion. This ground motion has been referred to as the "Hosgri" ground motion. The 1978 approval of the seismic design of the plant included the recommendation that the seismic design be reevaluated in ten years taking into account any new information that became available. Part of the full operating license approval for Unit 2 required PG&E to update the geological, seismological, and ground-motion information, reevaluate the magnitude of the earthquake used to determine the Diablo Canyon seismic design basis, reevaluate ground motion expected at the site, reassess engineering and equipment response, and perform a seismic probabilistic risk assessment and deterministic studies as necessary. This led to the creation of the Long Term Seismic Program (LTSP). The purpose of

[94] Seismic hazards are often discussed in terms of the strength or intensity of ground shaking rather than earthquake magnitude. Measures of ground-shaking account for the attenuation of seismic waves due to distance from a rupture and amplification or damping due to substrate types (e.g., soft sediments vs. hard rock) and thus provide a better estimate of the amount of damage that may occur at a given site. Ground shaking is often measured as the *acceleration* experienced by an object during an earthquake, expressed as a fraction of the acceleration of gravity (9.81 m/s^2), 1.0 "g". The *spectral acceleration* occurs at different oscillation frequencies, which can be plotted to form a ground shaking *response spectrum*. The *peak ground acceleration* (PGA) is a measure of the maximum force experienced by a small mass located at the surface of the ground during an earthquake, and is used in seismic design as a hazard index for short, stiff structures.

> the LTSP was seismic margins analysis; to make sure that the plant had sufficient margin of safety (or could be upgraded) given new geologic information.

As described in PG&E's 2015 Seismic Hazard and Screening Report,[95] the early work of the LTSP included a reevaluation of the Lompoc earthquake, which was determined not to be associated with the Hosgri Fault, and the development of the first seismic probabilistic risk assessment for DCPP. This study defined the "Long Term Seismic Program Earthquake" (LTSPE) as the predicted ground motion at DCPP associated with a moment magnitude 7.2 earthquake on the Hosgri Fault approximately three miles from DCPP, with a horizontal peak ground acceleration of 0.83 g.

More recently, PG&E reevaluated ground shaking hazards at DCPP through a process known as Probabilistic Seismic Hazard Assessment (PSHA). PG&E's PSHA for the DCPP site is summarized in reports from 2015[85,96] as well as in a 2024 Updated Seismic Assessment describing subsequent modifications to the PSHA.[97] The 2015 PSHA included new seismological, geophysical and geological data collected at and near the DCPP site under the LTSP, PG&E's Central Coast Seismic Network, and California Assembly Bill 1632, and involved the re-evaluation of major nearby seismic sources (faults) and the potential magnitudes, probabilities and recurrence intervals for major earthquakes on those faults. Like prior studies, the 2015 PSHA found that the sources contributing most to the ground-shaking hazard at DCPP are the nearby Hosgri, Los Osos, Shoreline, and San Luis faults.

In addition to assimilating new information on seismic sources, PG&E's 2015 PSHA included a new, DCPP-specific ground motion characterization to quantify the ground shaking associated with the considered seismic sources. The resulting ground motion response spectrum (GMRS, i.e., the predicted ground accelerations at a range of seismic wave frequencies) was then compared to the previously evaluated scenarios – including the Hosgri Earthquake (PGA = 0.75 g) and LTSPE (PGA = 0.83 g) events noted above – that represent the design basis for DCPP. In general, the ground motions predicted in the 2015 PSHA are bounded by (lower than) the prior analyses, and PG&E concluded that the plant remains safe to operate. As stated in the 2015 Seismic Hazard and Screening Report,

> All Design Class I structures, systems, and components at DCPP, including the SFPs [spent fuel pools], have been designed/evaluated for the design/licensing

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[95] PG&E, 2015. Seismic Hazard and Screening Report, Diablo Canyon Power Plant Units 1 and 2, Enclosure to PG&E Letter DCL-15-035, "Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding the Seismic Aspects of Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident: Seismic Hazard and Screening Report", March 11, 2015.

[96] Pacific Gas and Electric Company (PG&E), 2015. Seismic Source Characterization for the Diablo Canyon Power Plant, San Luis Obispo County, California: report on the results of the SSHAC level 3 study, Rev. A, March 2015.

[97] Pacific Gas and Electric Company (PG&E), 2024, Diablo Canyon Updated Seismic Assessment, Response to Senate Bill 846, technical report, dated February 1, 2024, 392 pages.

> basis 1977 HE [Hosgri earthquake] spectrum and found to meet the HE acceptance criteria (PG&E 1980 and NRC 1978b)
> ...
> All structures,[9] systems, and components required for safe shutdown[10] have been evaluated for the 1988 LTSP spectrum and found to have significant seismic margins
> ...Therefore, comparing the results of the revised GMRS against the 1988 LTSP evaluation demonstrate that all structures and components required for safe shutdown, including vibration sensitive components, have a significant seismic design margin beyond the GMRS.
> ...
> Based on the above comparisons to the design/licensing basis 1977 HE evaluation and the 1988 LTSP evaluation, there is reasonable assurance that DCPP remains safe to operate without undue risk to the public while an updated risk evaluation is being performed.

In 2018, PG&E also prepared a Seismic Probabilistic Risk Assessment (SPRA) report, drawing on the results of the 2015 PSHA, that did not identify any seismic hazard vulnerabilities at the plant.[98] Lending support to PG&E's conclusions, the Diablo Canyon Independent Safety Committee (DCISC) reviewed both the 2015 PSHA and 2018 SPRA completed in 2018 and found that "DCPP's seismic safety was acceptable and represented industry-leading performance in the seismic safety achieved at the facility."[99]

In 2023 – 2024, in compliance with SB 846, PG&E prepared an update to the 2015 PSHA, including a review of recently published data models and methods. In general, the 2024 Update found that most new scientific information is consistent with the 2015 PSHA, and that major changes to the hazard model are not warranted, with the key exception of several new studies addressing slip rates on the Hosgri and Los Osos faults. Based on this new information, PG&E recalculated the slip rates on these faults, resulting in a weighted-mean slip rate for the Hosgri fault that is 26% greater than in the 2015 PSHA, and a slip rate for the Los Osos fault that is 9 – 15% lower. As discussed in greater detail below, changes to the fault slip rates affect the calculated rate of earthquakes from these seismic sources, and thus the predicted ground motions and recurrence intervals. In comparison to the 2015 PSHA, these modifications to the seismic source characterization are estimated to result in increases in ground motion in the range of 4 – 7%. PG&E concluded that even with the incremental increase in predicted ground motions at all recurrence intervals, the probability of damage to critical structures -- as measured by the "total core damage frequency" (CDF) and "large early

[98] Pacific Gas and Electric Company (PG&E), 2018, Seismic Probabilistic Risk Assessment for the Diablo Canyon Power Plant, Units 1 and 2 - Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding Recommendation 2.1: Seismic of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident, dated April 24, 2018.

[99] Diablo Canyon Independent Safety Committee (DCISC), 2024.Thirty-Fourth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2023—June 30, 2024, approved October 10, 2024.

release frequency" (LERF) – remained below NRC risk criteria (i.e., with annual risk of exceedance on the order of 1/10,000 to 1/100,000). The DCISC reviewed the 2024 Update, and, following additional fact-finding efforts, concurred with PG&E's assessment, stating in its 2024 annual report that "seismic safety of the DCPP reactors is currently fully adequate and requires no additional upgrades or improvements. The DCISC also concludes that no upgrades or improvements to seismic safety would be needed to assure that the seismic safety of the DCPP reactors will be adequate for extended operations beyond 2025, if so authorized." As noted previously, the Commission is proscribed from applying Section 30253 to nuclear and radiological safety, and here makes no findings in relation to these issues. Rather, the conclusions contained in the PG&E and DCISC reports provide a useful proxy for assessing the general stability and structural integrity of DCPP structures in relation to ground-shaking hazards.

However, as discussed in detail in the subsequent section, both the Diablo Canyon Independent Peer Review Panel (IPRP)[100] and Commission Engineering Geologist Philip Johnson have raised questions about the quality of the seismic source characterizations contained in PG&E's 2024 Seismic Hazards Update and currently used to estimate seismic ground shaking hazards at the site.

Enforceable Policy Analysis

As noted above, PG&E has previously evaluated the seismic ground shaking hazard at DCPP through its 2015 PSHA and a 2024 update describing subsequent modifications to the PSHA. The PSHA process includes evaluating major nearby seismic sources (faults) and the likely magnitudes and recurrence intervals for major earthquakes on those faults. Estimates of maximum earthquake magnitudes are based on the length of fault rupture. A fault with a longer mapped trace is typically assigned a higher maximum magnitude estimate than a shorter fault. Therefore, the mapped length of a fault allows for a simple estimate of potential earthquake magnitudes.

To best understand the likely recurrence interval for major earthquake events, geologists typically consider the slip rate of the fault. The rate of large earthquake events depends directly on fault slip rates. Higher slip rate faults have more frequent large magnitude earthquakes, and faults with lower slip rates have less frequent large earthquakes. Though individual large earthquakes can cause surface displacements of less than one meter to several meters in one event, those events can be hundreds to thousands of years apart. Due to the large range of possible recurrence intervals for earthquakes on a range of faults, the simplest way to express the rate of fault slip is an

[100] Over the past two decades, Commission geologists have participated in the Diablo Canyon Independent Peer Review Panel (IPRP), which is an inter-agency panel of technical experts from the California Geological Survey, California Coastal Commission, California Energy Commission, California Seismic Safety Commission, California Public Utilities Commission (CPUC), California Office of Emergency Services, and San Luis Obispo County. The IPRP was convened by the CPUC and is tasked with providing independent seismic hazard expertise to support CPUC decisions, as well as assurance to the public that seismic hazards studies funded by the CPUC and conducted by PG&E are being performed in a rigorous and appropriate manner.

average value measured in millimeters per year (mm/yr). The most active faults, such as the San Andreas fault, may have slip rates of 20 to 40 mm/yr or more. Less active faults may have slip rates of as little as 1 mm/yr or less. Large earthquakes tend to cause very strong to extreme shaking intensities, so the frequency of large earthquakes is important for understanding the risk to the structures at the DCPP site. Therefore, Coastal Commission technical staff focused on the slip rates of faults near the DCPP. The expectation of a higher slip rate and more frequent large earthquakes raises the hazard estimate in the PSHA prepared for the site.

Slip rates are determined through careful fault mapping and identification of a unique geologic or geomorphic feature that is offset by a fault. The next steps involve carefully measuring that offset and determining the age of the feature. For instance, a feature such as a marine terrace, an ancient shoreline, or an ancient stream channel deposit could be offset by several meters where it crosses an active fault. The slip rate for that fault would be calculated by the measured offset divided by the age of the feature. For example, a 30 meter (30,000 mm) offset of an ancient stream deposit dated by radiocarbon methods at 10,000 years old, would yield a slip rate of 30,000 mm/10,000 yr = 3 mm/yr. The benefit of determining a slip rate in mm/yr is that it provides an objective basis to estimate potential recurrence intervals for major earthquakes and allows comparison with other faults that have better documented seismic histories.

The offshore Hosgri fault is the most significant seismic source for the DCPP site (Fig. 3, below). In addition, the faults that bound the Irish Hills, the Los Osos fault on the northeast side and the Southwest Boundary Zone (SWBZ) fault on the southwest side, are potentially important seismic sources due to the proximity of these faults to the DCPP. Other faults within the region are potential seismic sources, but the distances between those other faults and the DCPP are large enough that ground motions (the severity of seismic ground shaking) are likely to attenuate before reaching the DCPP. Earthquakes on those faults would be felt at the DCPP, but the shaking would not be as strong. Thus, the greatest seismic ground shaking hazard comes from the Hosgri fault, followed by the Shoreline fault and SWBZ fault zone, and Los Osos fault. Other faults that are more distant include the Casmalia fault and Lion’s Head fault that bound the Casmalia Hills south of the DCPP site. The San Andreas fault is even farther from the DCPP and less likely to cause very strong, damaging ground shaking at the site.

Hosgri Fault

The offshore Hosgri fault is a major seismic source located approximately 4.9 km southwest of the DCPP. It is a right lateral strike slip fault, similar to the San Andreas fault. It is the southernmost portion of the San Gregorio-Hosgri fault system that extends for a distance of approximately 400 km, running nearly-parallel to the San Andreas fault. At the north end, near the town of Bolinas, the Hosgri fault merges with the San Andreas fault. The Hosgri fault is capable of earthquakes in the moment magnitude range 6.5 to 7.5. Though the range of potential earthquake magnitudes is reasonably well understood due to the well-constrained fault length, the slip rate of the Hosgri fault is still the focus of ongoing research. Several studies have attempted to identify a

credible slip rate estimate for the Hosgri fault near the DCPP, but some studies have been more successful than others.

Figure 3: Map of known Quaternary active faults near the Diablo Canyon Power Plant.

In its 2024 update report, PG&E proposed a slip rate model for the Hosgri fault that gives varied weights to slip rate estimates from four different sites along the fault (Fig. 4, below). From north to south, those sites are San Simeon, the Cross Hosgri Slope (CHS), Estero Bay, and Point Sal. The IPRP (including Coastal Commission geologist, Philip Johnson) evaluated the data from the four slip rate sites and provided an estimation of the quality of those data.[101]

The slip rate from the San Simeon site comes from an onshore marine terrace, the Oso Terrace, east of the fault which lines up with a bedrock headland on the west side of the fault. Early researchers[102] proposed a model of the ancient shoreline that aligned the terrace with the bedrock headland. The reconstruction of the fault offset requires

[101] Independent Peer Review Panel (IPRP), 2024, Initial Review of the PG&E "Updated Seismic Assessment, February 2024" by the Independent Peer Review Panel for Seismic Hazard Studies of the Diablo Canyon Nuclear Power Plant: IPRP Report No. 16, dated August 26, 2024, 44 pages.

[102] Rockwell, T., Vaughan, P. R., Bickner, F., and Hanson, K. L., 1994, Correlation and age estimates of soils developed on marine terraces across the San Simeon fault zone, central California, *in* Alterman, I. B., McMullen, R. B., Cluff, L. S., and Slemmons, D. B., eds., Seismotectonics of the Central California Coast Ranges: Geological Society of America Special Publication 292, p 151-166.

assumption of an ancient shoreline geometry that cannot be independently verified. Though that ancient shoreline existed over 200 thousand years ago, the researchers proposed a model for the ancient shoreline that mimics the current shoreline at San Simeon and other similar shorelines where a marine terrace meets a bedrock headland.

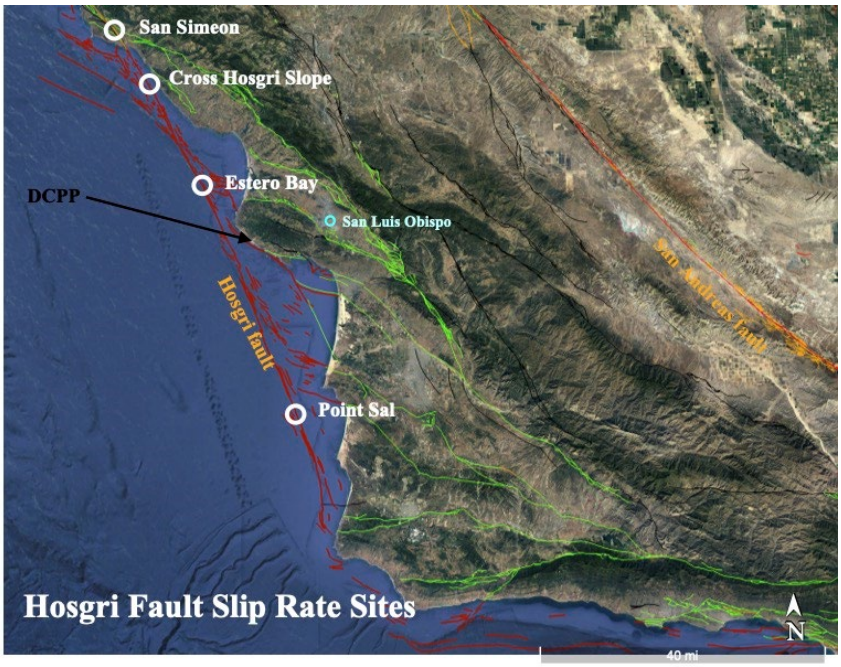

Figure 4: Hosgri fault slip rate sites used by PG&E.

This assumed shoreline geometry leads to a large degree of uncertainty in the fault offset measurement. The researchers estimated the offset at 150 meters to 550 meters. They estimated the age of the Oso Terrace at 200,000 to 230,000 years ago (abbreviated 200 ka to 230 ka) based on the estimated age of soil that formed on the terrace surface. The estimated slip rates range from 0.65 mm/yr to 2.75 mm/yr. PG&E chose a preferred slip rate of 1.8 mm/yr for the Hosgri fault at the San Simeon site. However, as discussed in greater detail in the Technical Memorandum in **Appendix C** the basis for that stated preference is not clear. Given the large uncertainty in both the fault offset measurements and the estimated age of the Oso terrace, the IPRP and Commission Engineering Geologist, Philip Johnson, judge the quality of the slip rate data from the San Simeon site to be low.

The Cross-Hosgri Slope (CHS) site[103] is an offshore paleo-shoreline with a well-defined fault offset. The measured offset of the CHS paleo-shoreline is 30.3 ± 9.4 meters.

[103] Johnson, S.Y., S.R. Hartwell, and P. Dartnell. 2014. "Offset of latest Pleistocene shoreface reveals slip rate on the hosgri strike-slip fault, offshore central California." *Bulletin of the Seismological Society of America*, v. 104, p. 1650-1662.;

Medri, E., Simms, A.R., Kluesner, J., Johnson, S.Y., Nishenko, S.P., Greene, H.G., and Conrad, J.E., 2022, Subaqueous clinoforms created by sandy wave-supported gravity flows: Lessons from the central California shelf: *Marine Geology*, v. 456;

Radiocarbon and OSL dating indicate an age of 11.7 ± 0.1 ka for the paleo-shoreline sediments. Those data yield a slip rate of 2.6 ± 0.8 mm/yr with a high degree of confidence. The results of the CHS study were published in scientific journals that apply very high standards of rigorous peer review prior to publication. It is the opinion of the IPRP and Commission Engineering Geologist, Philip Johnson, that the quality of the slip rate data from the CHS is high.

At the Estero Bay site, the researchers[104] identified several ancient offshore channels (i.e., paleo-channels) that appear to be offset by the Hosgri fault. However, the correlation between individual paleo-channels west of the fault with matching paleo-channels east of the fault remains unclear. Also, there are large uncertainties regarding the age of the offset paleo-channels. The Estero Bay site lacks the two elements necessary to define a fault slip rate: an offset feature that can be conclusively matched across the fault and the age of the feature. Therefore, the IPRP and Coastal Commission Engineering Geologist, Philip Johnson, judge the quality of slip rate estimates from the Estero Bay site to be very low.

The offshore Point Sal site along the southern Hosgri fault does have a unique paleo-channel that can be correlated across the fault, and the proposed offset measurements from that feature appear reasonable. Uncertainties about the age of the offset paleo-channel hindered earlier attempts to define a slip rate for this site. However, a new study by Nishenko, et al. (2025)[105] seems to have improved the age estimate for the offset paleo-channel. They concluded that the age of the offset channel is either 250 ka or 345 ka. Based on those two possible paleo-channel ages, the slip rate could be either 1.86 ± 0.26 mm/yr or 2.56 ± 0.37 mm/yr. The average of those two slip rates is 2.21 mm/yr. The IPRP and Commission Engineering Geologist, Philip Johnson, judge the quality of the new data from the Point Sal site to be moderate due to the uncertainty about the age of the offset paleochannel.

In summary, the IPRP and Commission Geologist, Philip Johnson, judge the quality of the data from the San Simeon and Estero Bay studies to be too low to be useful in a PSHA. By contrast, the quality of slip rate data from the CHS site is high. New data from the offshore Point Sal site reaches a moderate standard of quality due to the uncertainty in the age estimates. Therefore, the IPRP's August 2024 review recommended the use of slip rate data from the CHS site (2.6 mm/yr) as the primary input for the Hosgri fault slip rate. However, new data from an average of the Point Sal slip rates (2.2 mm/yr) could be included at a lower weight, not exceeding 20% of the total slip rate used for the

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Kluesner, J.W., Johnson, S.Y., Nishenko,S.P., Medri, E., Simms, A.R., Greene, H.G., Gray, H.J.,Mahan, S.A., Padgett, J.S., Krolczyk, E.T., Brothers,D.S., and Conrad, J.E. 2023. "High-resolution geophysical and geochronological analysis of a relict shoreface deposit offshore central California: Implications for slip rate along the Hosgri fault." *Geosphere* v.19, no. 6, p.1788-1811.

[104] Pacific Gas and Electric Company (PG&E), 2014, Chapter 3, Offshore low-energy seismic reflection studies in Estero Bay, San Luis Bay, and Point Sal areas, PG&E Technical Report GEO. DCPP.TR.14.02, 178 pages.

[105] Nishenko, S., Greene, H. G., Bergkamp, B., and Hogan, P. J., 2025, High-resolution three-dimensional seismic imaging reveals structure and slip rate of the Hosgri fault zone offshore Point Sal, California, United States: Geosphere, https://doi.org/10.1130/GES02706.1

Hosgri fault in the PSHA. The data from the CHS site should receive a weight of at least 80% in the slip rate calculations for the Hosgri fault due to its higher quality and greater associated certainty.

Irish Hills Faults

The DCPP is located on the southwest side of the Irish Hills. The faults that form the northeast and southwest flanks of the Irish Hills are important seismic sources due to their proximity to the DCPP. The Los Osos fault forms the northeast boundary of the Irish Hills, separating the hills from the Los Osos Valley to the north. A set of faults known as the South Boundary Fault Zone (commonly abbreviated to SWBZ fault) separate the Irish Hills from the Santa Maria Valley to the south. The Los Osos fault is approximately 10 km northeast of the DCPP, and the SWBZ fault projects offshore to within 1 km of the DCPP (or less). The fault geometry, sense of slip (thrust, reverse, or strike-slip), and the slip rate for the Los Osos fault and the SWBZ fault remain uncertain. In its 2015 seismic source characterization report, PG&E identified three possible fault block geometry models for the Los Osos and SWBZ faults that involve a major component of reverse slip which is predominantly vertical slip. Using the assumption that the Los Osos and SWBZ faults are reverse faults with predominantly vertical slip, PG&E estimated that the slip rates on these faults are reasonably well constrained by the uplift rate for the Irish Hills (0.15 to 0.2 mm/yr). If that is correct, the slip rate for the Los Osos and SWBZ faults should be relatively low in keeping with the low uplift rate for the Irish Hills.

In contrast with PG&E's fault models for the Irish Hills, research by the U.S. Geological Survey[106] indicates that the offshore Los Osos fault may be a strike-slip fault. Strike slip faults move laterally with relatively little vertical slip. If a strike slip fault geometry applies to the Los Osos fault, the vertical uplift rate for the Irish Hills would not be representative of the slip rate for the Los Osos fault, and the slip rate may be significantly greater than PG&E had assumed based on the uplift rate. This is an important finding deserving of additional investigation to evaluate this alternate hypothesis for the geometry of the Los Osos fault and to better determine a slip rate for the fault.

During 2025, the Diablo Canyon Independent Safety Committee (DCISC) convened a panel of three experts to review specific aspects of seismic hazard at the DCPP. This panel, known as the Seismic Review Team (SRT), issued a report[107] in May 2025 in which they proposed a geologic model that accounts for the observed uplift of the Irish Hills through thrust fault movement along the SWBZ fault. This alternate tectonic model emphasizes active SWBZ low-angle thrust faulting rather than high-angle reverse faulting, and it does not incorporate PG&E's other models for the Irish Hills faults. The

[106] Watt, J. T., Johnson, S. Y., Hartnell, S. R, and Roberts, M., 2015, Offshore geology and Geomorphology from Point Pedras Blancas to Pismo Beach, San Luis Obispo County, California: U. S. Geological Survey Scientific Investigations Map 3327.

[107] Seismic Review Team of the Diablo Canyon Independent Safety Committee (SRT), 2025, Review of the Bird Critique: unpublished report to the Diablo Canyon Independent Safety Committee, dated May 30, 2025, 98 p.

SRT recommended additional investigation of the SWBZ fault and the Los Osos fault to further evaluate the proposed model. It is the opinion of the IPRP and Commission Engineering Geologist, Philip Johnson, that the recommended additional investigation and development of geologic models are warranted.

Diablo Canyon Independent Peer Review Panel (IPRP) Recommendations

In August 2024, the IPRP issued a peer review report which concluded that PG&E should give the CHS slip rate site 100% weight in their slip rate model for the Hosgri fault. The report further indicated that the uncertainty around the fault geometry models and slip rates for the Irish Hills faults (SWBZ fault and Los Osos fault in particular) warrant additional investigation to better characterize these faults and their slip rates. Similarly, they noted the shortcomings of slip rate models tied to an assumed reverse fault geometry for these faults. As an active member of the IPRP, Coastal Commission Engineering Geologist, Philip Johnson, agrees with the recommendations of the 2024 IPRP report.

Dr. Peter Bird's Critique of the DCPP Seismic Hazard Assessment

Dr. Peter Bird is an emeritus professor at UCLA who also works as an expert for Mothers for Peace, a non-profit organization concerned with the dangers posed by DCPP. During 2023 and 2024, Dr. Bird wrote multiple declarations regarding the seismic hazard at the DCPP site and submitted them to the Nuclear Regulatory Commission (NRC). Those declarations outline his critique of PG&E's seismic hazard assessment for the DCPP. Unlike PG&E, Dr. Bird proposes that a very shallowly-dipping (approximately 20° inclination from horizontal) thrust fault exists beneath the Irish Hills. The hypothesized fault is similar to the SWBZ fault, but the dip is shallower, which places a seismic source at relatively shallow depth directly beneath the DCPP. A seismic source directly beneath the DCPP represents a hypothetical worst-case scenario for seismic hazard. Dr. Bird indicates that this fault poses a much greater hazard to the DCPP than considered by PG&E. He asserts that the slip rate for that fault ranges from 2.0 mm/yr to 2.8 mm/yr. A slip rate of 2 mm/yr or greater would seem to require a marine terrace uplift rate much greater than observed for the Irish Hills. However, Dr. Bird states that the rate of crustal thickening (several kilometers beneath the Irish Hills) is approximately 6 times greater than the uplift rate and that the hypothesized crustal thickening allows for a higher slip rate. The proposed crustal thickening hypothesis is challenging to confirm, because it would occur at great depth, several kilometers below the ground surface.

Dr. Bird also asserts that the magnitude 7.5 Noto Peninsula earthquake of January 1, 2024, is a good analogue for a major thrust fault earthquake beneath the Irish Hills. The Noto Peninsula Earthquake caused severe damage to parts of northern Japan, and the severity of the seismic ground shaking was much greater than anticipated at that location. Given these assertions, Dr. Bird concluded that the risk of a major damaging earthquake beneath the DCPP, similar to the Noto Peninsula Earthquake, is high and

that the risk of such a catastrophic earthquake is unacceptable for the safety of the DCPP.

Seismic Review Team Response to Dr. Bird's Critique

The SRT reviewed Dr. Bird's critique of the PSHA prepared by PG&E for the DCPP, and they summarized the four primary assertions of Dr. Bird's critique as follows: (1) PG&E underestimated the seismic hazard posed by a thrust fault under the DCPP, because it made four false assumptions; (2) three different analytic methods give values of total slip on shallowly-dipping thrust faults under the Irish Hills in the range of 2.0 to 2.8 mm/yr; (3) the January 1, 2024 (M 7.5) Noto Peninsula earthquake is a good analog for a major thrust fault earthquake beneath the Irish Hills; and (4) the recurrence interval for a Noto Peninsula-type earthquake beneath the Irish Hills is 715-1000 years. This relatively short recurrence interval for a major earthquake of this magnitude beneath the DCPP poses a significant risk that is deemed to be unsafe.

The SRT (2025) evaluation and response to the four primary assertions of the Bird Critique are as follows: (1) the SRT found that removing the four false assumptions made for the PG&E seismic hazard assessment would have little or no effect on seismic hazard calculations; (2) the SRT found that Dr. Bird's slip rate estimates for a hypothetical thrust fault beneath the Irish Hills and hypothesized crustal thickening are not supported by the available data, including gravity data and isostatic models; (3) the SRT found that the January 1, 2024, M7.5 Noto Earthquake is not a good analogue for a large thrust event beneath the Irish Hills. The SRT points out that there are significant tectonic differences between the Noto Peninsula in Japan and the Irish Hills. The uplift rate of the Noto Peninsula is 5 times higher and large magnitude earthquakes (>M6) are more common in the historical record for the Noto Peninsula than the Irish Hills; and (4) the SRT found that the recurrence interval for a Noto-type earthquake does not apply to thrust faulting beneath the Irish Hills. Though it is very unlikely that a Noto-type earthquake would occur in the Irish Hills, the SRT asserts that if a Noto-type earthquake model were applied to the Irish Hills, the recurrence interval would be approximately 20 to 30 times longer than the 715 to 1000 years proposed by Dr. Bird.

The SRT concluded that Dr. Bird's critique of the PSHA is incorrect and that the seismic hazard posed by the SWBZ fault is not similar to the worst case scenario that Dr. Bird expressed. Coastal Commission Engineering Geologist, Philip Johnson, concurs with the conclusions reached by the SRT regarding Dr. Bird's critique.

Nuclear Regulatory Commission Response to Dr Bird's Critique

On April 10, 2025, the NRC issued a response to declarations prepared by Dr. Peter Bird in response to a petition by several groups to consider those declarations in the re-licensing of the DCPP. The NRC response centered on the four points made by Dr. Bird in his critique of the PSHA. The NRC rejected the hypothetical thrust fault beneath the DCPP and the notion that thrust faults beneath the Irish Hills were not adequately considered in the PSHA. They also concluded that the 2024 Noto Earthquake is not a good analogue for the seismic hazard at the Irish Hills. Specifically, they noted the considerable differences in the tectonic settings of the Irish Hills and the Noto

Peninsula. The NRC also rejected a slip rate of 2.0 to 2.8 mm/yr for a hypothetical thrust fault beneath the DCPP, and they indicated that the geophysical data used by Dr. Bird to support the crustal thickening hypothesis was not convincing. The NRC further concluded that Dr. Bird's stated potential for strong ground motions to cause core damage to the DCPP at a frequency of once per 715 to 1000 years is not credible.

Ground Shaking Hazard – Conclusion

Based on the available information, in particular PG&E's most recent probabilistic seismic hazards assessment from 2015 and as updated in 2024, the DCPP design basis remains conservative and the continued operation of DCPP is not threatened by potential seismic ground shaking hazards at the site. As noted above, this basic conclusion is supported by recent reviews conducted by the DCISC, the independent body charged with reviewing and making recommendations concerning the safety of operations at DCPP. In this instance, the Commission's findings relate to the general stability and structural integrity of DCPP structures, without consideration of nuclear or radiological safety.

However, as detailed in the above discussion and in the technical memorandum in **Appendix C**, several important questions remain regarding the data and assumptions that underlie PG&E's analysis. In particular, the available data for the Hosgri fault indicate that the weighted slip rate used by PG&E in their 2024 report (2.1 mm/yr), which includes the more uncertain slip rate data from the San Simeon and Estero Bay sites, remains below the slip rate indicated by the higher quality data from the Cross Hosgri Slope (CHS) site (2.6 mm/yr) and Point Sal site (2.21 mm/yr). To provide a more complete (and precautionary) basis for PG&E's seismic hazards analysis, PG&E should supplement the PSHA for DCPP with an analysis using only the higher quality slip rate data from the CHS site (2.6 mm/yr) (with the possible addition of an average of the medium quality data from Point Sal (2.21 mm/yr) provided in Nishenko et al. 2025, at a weighting of no more than 20%) while excluding the San Simeon and Estero Bay slip rate estimates as recommended in the August 2024 IPRP report.

Additionally, the slip rate estimates for Irish Hills faults used in PG&E's PSHA are influenced by the assumption that the fault geometry is dominated by reverse faulting with a large component of vertical offset, allowing fault slip rates to be constrained by the relatively low uplift rate of the 120 ka marine terrace. However, alternative fault geometries have been proposed that can explain the vertical uplift of the Irish Hills or which have a greater component of lateral slip, indicating the potential for higher slip rates along the Irish Hills faults and potentially influencing ground shaking hazards at DCPP. As noted in Philp Johnson's technical memorandum (**Appendix C**), PG&E has funded, and plans to continue funding, on-going research by the USGS to better characterize the uplift history and fault geometry of the Irish Hills, which is expected to yield new data that could clarify the slip rates associated with the Irish Hills faults. This emerging research, when available, should be incorporated in the DCPP PSHA.

In order to provide assurance that PG&E's on-going assessment of seismic ground shaking hazards at DCPP is based on the best available science, and extended plant

operations would continue to minimize hazards and assure stability and structural integrity consistent with Section 30253(a) and (b) of the Coastal, **Special Condition 7** requires that any future CDP or CDP Amendment application for continued operations of the DCPP beyond October, 31, 2030, be supported by a supplemental evaluation of seismic hazards at the site, using the best available science in relation to (a) the slip rate of the Hosgri fault, and (b) the fault geometry and fault slip rates of the Irish Hills faults, substantially following the recommendations of the Independent Peer Review Panel (IPRP) for Seismic Hazard Studies of the Diablo Canyon Nuclear Power Plant, Report No. 16 (dated August 26, 2024) and the Commission Geologist's October 16, 2025 Technical Memorandum (**Appendix C**). The supplemental analysis would be required to compare probabilistic seismic ground motion predictions for the site to the plant design basis, make recommendations as to whether any upgrades, repairs or modifications to plant structures or equipment are necessary to assure the non-radiological stability and structural integrity of the plant for the proposed period of extended operations, and be made available to the IPRP and the Diablo Canyon Independent Safety Committee (DCISC) for review and comment.

With the inclusion of **Special Condition 7**, the Commission finds that the proposed project assures stability and structural integrity relating to seismic ground-shaking hazards, consistent with section 30253 of the Coastal Act.

Fault Rupture Hazard

There are no active faults mapped within the DCPP site or in the vicinity of reactor Units 1 and 2.[108] As reported in the Environmental Report included in PG&E's application to NRC, a number of minor faults are present in the Miocene bedrock underlying the site, but none of these breaks offset the geologic contact between the bedrock and much younger terrace deposits, and none extend into the surficial cover, indicating that none are active. Thus, the probability of a fault rupture affecting the DCPP site is considered to be very low.

Landslide Hazard

In annual monitoring reports[109], PG&E mapped several areas of landsliding within the DCPP site. None of the mapped landslides directly threaten DCPP Units 1 and 2. The potential impacts of landsliding are limited to other areas of the DCPP site as well as the access road that serves the plant facilities. The monitoring reports mention landslides on the southern slope of Diablo Canyon upstream from the Independent Spent Fuel Storage Installation storage pads area. These landslides do not directly threaten the ISFSI.

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[108] Fault Activity Map of California: California Geological Survey, https://maps.conservation.ca.gov/cgs/fam/; Quaternary Fault and Fold Database of the United States: U.S. Geological Survey, https://earthquake.usgs.gov/cfusion/qfault

[109] Pacific Gas and Electric Company (PG&E), 2023, Diablo Canyon Independent Spent Fuel Storage Installation Slope Stability and Shoreline Monitoring Annual Report 18, technical report, dated August 31, 2023, 45 pages; Pacific Gas and Electric Company (PG&E), 2025a, Diablo Canyon Independent Spent Fuel Storage Installation Slope Stability and Shoreline Monitoring Annual Report 19, technical report, dated March 10, 2025, 44 pages.

The Patton Cove Landslide is a landslide complex on the coastal bluff, approximately 30 to 40 feet seaward of Diablo Ocean Drive, the major access road for the DCPP. Pavement cracks previously opened in Diablo Ocean Drive and the raw water line used for fire suppression separated beneath the roadway following renewed movement in 1996 and 1997. PG&E repaired the water line and resurfaced the road covering the pavement cracks. Since that time, PG&E has been continually monitoring the status of the Patton Cove Landslide and does not propose to discontinue doing so. This monitoring provides valuable information about the status and potential progression of the landslide and will allow PG&E to proactively address potential future risks to its water line or access road. As such, PG&E should continue to monitor the roadway annually and, if indications of risk to the roadway or water line are observed, it should consider relocating the road away from the landslide or other alternatives for landslide mitigation to protect the vital access road and water line. The 2005 CDP for the Diablo Canyon ISFSI (CDP No. A-3-SLO-04-035) implements this approach and includes a requirement for annual monitoring of the Patton Cove Landslide and potential impacts of the landslide and bluff retreat on Diablo Ocean Drive.

Coastal Hazards

As described in the Environmental Report included in PG&E's application to NRC, DCPP is located in the southern Coast Range and the area surrounding the DCPP site consists of mountains, foothills, marine terraces, and valleys. The plant site and associated development is specifically located within a terrace consisting of a gently to moderately sloping strip of land, up to 2,000 feet in width, with steep shoreline cliffs approximately 88 feet above the NAVD88 datum (85 feet above mean sea level). Much of the coastline consists of bare rock, except for Diablo Cove which has small, irregular concentrations of coarse-grained sea cliff talus. The power plant site is underlain by Miocene-aged (23 – 5 million years before present) Monterey Formation sandstone that is very resistant to erosion, covered by 3 to 35 feet of recent (Pleistocene to Holocene) marine and non-marine terrace deposits. As a result of the resistant bedrock exposed at the base of the cliff, bluff erosion and retreat seaward of the power plant over the next 20 years is anticipated to be negligible.

Tsunami Hazard

Given the elevation of the plant at approximately 88 feet, and the location of the plant atop a terrace with rocky cliffs which are not susceptible to erosion from wave attack, the only coastal hazard with the potential to adversely impact DCPP is tsunami. Both PG&E and the Nuclear Regulatory Commission have commissioned studies of the tsunami hazard at the DCPP site.[110] These studies reviewed potential tsunami sources,

[110] Pacific Gas and Electric Company (PG&E), 2015b, Diablo Canyon Power Plant Units 1 and 2, Flood Hazard Reevaluation Report, PG&E Letter DCL-15-034, unpublished technical report dated March 11, 2015;

Taylor Engineering, 2017, Technical Evaluation Report, Diablo Canyon Nuclear Power Plant Tsunami Hazard Reevaluation Review: consultant's report to the U.S. Nuclear Regulatory Commission;
ERM, 2024, DCPP CCC NOI Response Support Sea Level Rise, Tsunami, Wave and Erosion: unpublished consultant's report prepared for PG&E, dated July 23, 2024, 54 pages.

including distant sources, such as subduction zone earthquakes on the Aleutian arc, and nearby sources such as offshore subaqueous landslides. The estimated maximum tsunami runup values from these varied sources ranged in elevation from 32.7 ft to 62.3 ft. Even in conjunction with extreme sea level rise, represented by the High scenario of 1.1 feet in 2050 in the 2024 State of California Sea Level Rise Guidance, tsunami wave runup would be 25 feet below the elevation of the plant. Thus, within the 20-year timeframe of extended operations, DCPP is not expected to be impacted directly during a tsunami event.

Coastal hazards must also be analyzed for the intake structure in Diablo Cove for the OTC water system used to cool the power generating units. According to studies provided by PG&E, the intake structure is constructed with watertight compartments that would sufficiently protect the intake in the event that the intake is completely inundated during a maximum tsunami runup. There are existing hard armoring structures consisting of gabion mattresses reinforced with concrete pavement which would prevent erosion to the intake structure during a tsunami.

Another potential impact at the intake structure would be the drawdown of ocean water prior to a tsunami making landfall. Approximately five to 10 minutes prior to a tsunami reaching land, water in the area of the shore recedes as a result of the depression preceding the advancing large inbound wave crest of the tsunami[111]. At DCPP, the anticipated drawdown from a maximum tsunami event would reduce water levels to -15.1 feet within Diablo Cove. A drawdown of water at this level within Diablo Cove could prevent the intake from drawing in water for the OTC system thus threatening the stability of plant operations. However, per the reports provided by PG&E, the minimum water level required by the plant is -17.1 feet, approximately two feet lower than the modeled drawdown during a maximum tsunami event. Additionally, even if a tsunami exceeded this drawdown threshold, DCPP has several million gallons of backup water supply (in tanks and a reservoir) at an uphill location from the plant that are meant to provide sufficient water to conduct the several hours of safe shutdown operations, if necessary. Thus, even during drawdown from a maximum tsunami event the intake at DCPP would still be able to function and a backup supply of cooling water is available.

Breakwater Repair

The mouth of the DCPP Intake Cove is formed by two concrete breakwaters measuring approximately 670 feet and 900 feet. The breakwaters were constructed during construction of DCPP in the 1980s and consist primarily of concrete tribar capped with a layer of concrete. The downcoast end of the eastern breakwater consists of a section of rock revetment comprised of three different stone gradations and lacks a concrete cap.

As described by PG&E in the CDP application:

[111] https://courses.washington.edu/larescue/Tsunami101/Tsunami101.htm

> Several storms in the winters of 2022 and 2023 resulted in the loss of some breakwater cross sections along with over-topping of the structure and degradation of the breakwater top.

PG&E is proposing to add four concrete Tri Bars and restack existing rock onsite to restore the breakwater to its original profile using mobile cranes and other construction equipment. Rock may need to be sourced from an offsite location in the event there is not sufficient material onsite to achieve the original profile. Once this section of breakwater is restored, a concrete cap/walkway will be cast-in-place and hand railings will be installed. No work is proposed for the remainder of the eastern breakwater, nor for the western breakwater.

The breakwater maintenance will require approximately 5,000 cubic yards of rock and will encompass approximately 13 percent of the volume of the structure being repaired and approximately 15 percent of the area of the revetment. The Commission's staff engineer has reviewed the proposed project and agrees with PG&E's determination that the proposed repairs and maintenance to the revetment will improve the stability and structural integrity of the existing revetment, which is necessary to protect DCPP intake cove and small harbor. Therefore, through re-stacking revetment stones that have migrated from the revetment structure, the proposed project will both restore the revetment to its previously approved state and will continue to provide the level of protection necessary for the DCPP intake cove which it was constructed to protect. Additionally, the proposed work will not expand the footprint of the existing revetment, nor will it require any work to the foundation of the revetment.

While the proposed improvements are considered repair and maintenance, they do not constitute "redevelopment" or a new structure. Evaluating whether a project is considered redevelopment is significant because it ensures that development proposed in hazardous areas have a threshold at which point the development, in its entirety, must be reevaluated for consistency with the Coastal Act. This determination stems from Coastal Act Section 30610(d) (which relates to repair and maintenance) and Section 13252(b), which states that replacement of 50% or more of an existing structure does not constitute repair and maintenance, but rather constitutes a replacement structure that must be consistent with Chapter 3 of the Coastal Act[112].

Future repair and maintenance activities to the embankment are not authorized via the subject CDP authorization, and thus any future repair and/or maintenance and/or other development activities would require separate CDP authorization. As part of any such CDP application, any development affecting the breakwater would be required to include an accounting of the ways in which such development relates to the enlargement, material change, and other alteration criteria above, including providing an up-to-date accounting of same.

Special Condition 11 requires PG&E to submit final project plans within 180 days prior to the start of breakwater repair activities that are in substantial conformance with the plans submitted with the CDP application. PG&E would be required to submit an

[112] All repair and maintenance activities at this site require review by the Commission due to proximity to the water, use of heavy machinery, etc. (Section 13252(a)(1) of Commission regulations.)

application for a new or amended CDP for any repairs not included in the CDP application, unless the Executive Director determines that additional Commission authorization is not required. Black abalone have been recorded on the seaward sides of the breakwaters and although no black abalone have been identified within the area of the proposed embankment repairs, there is potential for black abalone to be present in the vicinity. As such, **Special Condition 14** would require PG&E to survey for black abalone prior to the start of embankment repairs and prepare a mitigation plan for removal and/or relocation of any observed black abalone.

In addition, in terms of recognizing and assuming the hazard risks for shoreline development, the Commission's experience in evaluating proposed development in areas subject to hazards has been that breakwaters and embankments continue to be exposed to hazards due to periodic episodes of heavy storm damage and other such occurrences, as well as more steady erosion and other coastal hazards, all as may be exacerbated by sea level rise. As a means of allowing development to continue in areas subject to these hazards while avoiding placing the economic burden for damages onto the people of the State of California, the Commission has in the past required applicants to acknowledge site hazards and agree to waive any claims of liability on the part of the Commission for allowing the development to proceed. Accordingly, **Special Condition 9** would require PG&E to assume all risks.

Conclusion

Based on the best available information related to geologic and coastal hazards, and with the conditions described above, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30235 and 30253 of the Coastal Act.

I. Fill of Coastal Waters

Section 30233 of the Coastal Act states (in relevant part):

> (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:
>
> (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.

There is an existing boat dock located within the southeastern portion of the DCPP intake cove/harbor area. The existing dock consists of a shore-mounted gangway and two shoreside pipe structs with a main float that consists of three finger floats and two guide piles. In total, the existing dock comprises approximately 895 square feet in area. The existing floats are timber with plastic flotation tubs and the guide piles are uncoated steel H-piles. In its CDP application, PG&E states that the existing dock is showing evidence of damage from waves and other age-related deterioration. Additionally,

PG&E has indicated that although the existing float layout is adequate, the gangway and fingers are too short for most DCPP vessel operations.

In response, PG&E is proposing to replace the dock with a new unit located north of the existing dock. The replacement dock will be approximately 1330 square feet and consist of a post-tensioned float system that will be fabricated offsite, trucked to the project area, and assembled and installed at the intake cove. The new dock will consist of either a fabricated steel float system or a precast concrete float system and the new design would have five guide piles consisting of either steel or precast concrete that would be rock socketed into the rock substrate of the cove. The replacement gangway would be prefabricated aluminum supported by a shoreside concrete footing. Shoreside stairs and platforms would be reinforced concrete cast on top of existing rock.

A floating crane on a barge would be used to remove the existing piles, fingers and gangway and properly disposed of offsite. The crane would also be used to install the new piles, lift float segments from land into the water and to install the new gangway.

Section 30233(a) of the Coastal Act imposes a three-part test for projects resulting in the placement of fill in coastal waters: (1) the allowable use test; (2) an alternatives test; and (3) a mitigation test. The proposed dock replacement complies with these tests because: (1) the replacement dock is a new energy facility which constitutes an allowable use under Section 30233(a)(1); (2) PG&E examined several alternatives to the proposed dock replacement and any alternatives were either insufficient for the proposed needs or would result in greater impacts to coastal resources; and (3) with the avoidance, monitoring, and mitigation measures addressing sensitive marine species and habitats, all feasible mitigation measures have been provided to minimize adverse environmental impacts. The Commission therefore finds the project consistent with Section 30233(a) of the Coastal Act.

Alternatives
PG&E considered two alternatives to the proposed location for the replacement dock: constructing the replacement dock in the same location as the existing dock or constructing the replacement dock in the northeast corner of the Intake Cove. The largest eelgrass bed within the intake cove is located to the southwest of the existing dock and per PG&E's analysis, construction of the replacement dock in the same location could expose this eelgrass to adverse impacts from either dock construction or vessel operations at the new dock. At the alternate northeast location, the presence of rocky reef habitat similarly represents a potential for adverse impacts from dock construction and vessel operations at the new dock. As such, there is no feasible less environmentally damaging alternative to the proposed location for the replacement dock.

Adverse Impacts and Mitigation
As described in the Environmental Review prepared by PG&E, the bathymetric elevations within the Intake Cove range from 15.8 feet Mean Lower Low Water (MLLW) to 37.5 feet MLLW, with an average of 22.5 feet MLLW. Subtidal habitats within the

cove consist of bedrock/boulder substrate, sand and shell debris consisting of small patches between rocks or extensive deposits, and open water benthic substrate. Algae and aquatic plants within the cove consist of various species of kelp including bull kelp (*Nereocystis luetkeana*) and giant kelp (*Macrocystis pyrifera*) and lower-growing foliose of branched, filamentous, and crustose understory species such as red and brown algae. Invertebrates include urchins, snails, abalone, starfish and nudibranchs.

Eelgrass

PG&E previously surveyed the intake cove in 2020 and 2023. The 2020 survey identified approximately seven acres of kelp canopy throughout the cove and multiple occurrences of eelgrass (*Zostera spp.*) primarily within the southern and eastern portions of the cove. The 2023 survey located the populations identified during the 2020 survey, but the area of eelgrass had reduced slightly. The results of the 2020 and 2023 surveys are included in **Exhibit 6**. The 2023 survey did not find any eelgrass within the area proposed for the replacement dock. PG&E completed an additional eelgrass survey in July of 2025 which verified the continued presence of identified during the 2023 survey.

Although the dock replacement project is not within an identified area of eelgrass pursuant to the surveys provided by PG&E, eelgrass is known to vary significantly in spatial extent between years and thus, surveys are only valid for a short time in relation to periods of active growth that occur annually. Since the last survey was conducted in July 2025, the existing eelgrass survey may no longer valid at the time that the dock replacement is ready to commence and a new survey would be required. **Special Condition 14** requires PG&E to survey for eelgrass 60 days prior to the start of the dock replacement project and also provide post-activity eelgrass survey reports detailing eelgrass extent and whether the dock replacement project resulted in loss or damage to eelgrass. Any loss or damage to eelgrass would require mitigation consistent with the California Eelgrass Mitigation Plan (CEMP).

Caulerpa and Other Invasive Species

Caulerpa (*Caulerpa prolifera, Caulerpa taxifolia* and others of the genus *Caulerpa*) is a type of seaweed which has been identified as a threat to California's coastal marine environment because it has the ability to displace native aquatic plant species and habitats, including eelgrass. Caulerpa is known to grow on rock, sand, or mud substrates in both shallow and deep-water areas. Information available from the National Marine Fisheries Service indicates that Caulerpa can grow in large monotypic stands within which no native aquatic plant species can co-exist. Native seaweeds, seagrasses, and kelp forests can be displaced, which can adversely impact marine biodiversity. Due to its invasive potential and associated adverse impacts, all sale, possession, transfer, importation or release of Caulerpa was banned in California starting in 2024.

PG&E did not provide a survey for Caulerpa and other invasive marine species as part of its CDP application, but a Marine Biological Resources Assessment conducted between April and June 2020 as part of the San Luis Obispo County's Draft EIR for

decommissioning included surveys and did not identify Caulerpa or other invasive species within the DCPP intake cove. Since the last invasive marine species survey was over five years ago, **Special Condition 14** requires PG&E to conduct a new survey prior to commencing the dock replacement. If Caulerpa or other invasive marine species are found, PG&E would either provide evidence that all invasive marine species have been eradicated or revise the project to avoid contact with invasive species.

Contaminants and Debris

Storage or placement of construction materials, debris, or waste in a location subject to erosion and dispersion or which may be discharged into coastal water via rain, surf, or wind would result in adverse impacts to the marine environment that would reduce the biological productivity of coastal waters. For instance, construction debris entering coastal waters may cover and displace soft bottom habitat or intertidal areas. In addition, the use of machinery in coastal waters not designed for such use may result in the release of lubricants or oils that are toxic to marine life. Sediment discharged into waters may cause turbidity, which can shade and reduce the productivity of foraging avian and marine species by interfering with their ability to see food in the water column. In order to avoid adverse construction-related impacts to marine resources, **Special Condition 13** outlines construction-related requirements to provide for the safe storage of construction materials and the safe disposal of construction debris.

Although the new dock will consist of either a fabricated steel float system or a precast concrete float system, marine resources and water quality can be adversely affected by the use of any toxic chemicals used to treat wood products that come into contact with marine waters. The toxic chemicals can leach out of treated wood and poison marine organisms. Some wood treatments can be used if the wood does not come into contact with the water. Therefore, **Special Condition 13** also requires that any wood treatment used shall conform with the specifications of the American Wood Preservation Association for saltwater use. Wood treated with Creosote, CCA (Chromated Copper Arsenate), or ACA (Ammoniacal Copper Arsenate) is prohibited, and all treated timber shall be free of chromium and arsenic. The condition further requires that wood treated with ACZA (Ammoniacal Copper Zinc Arsenate) shall not be used where it could come into direct contact with the water.

Further, **Special Condition 13** requires that PG&E dispose of all demolition and construction debris at an appropriate onshore facility. This condition requires PG&E to incorporate silt curtains and/or floating booms when necessary to control turbidity and debris discharge. Divers shall remove any non-floatable debris not contained in such structures that sink to the ocean bottom as soon as possible.

Therefore, as conditioned, the project is consistent with Section 30233 of the Coastal Act.

J. Water Quality and Spill Prevention and Response

Section 30231 of the Coastal Act 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.

Section 30232 of the Coastal Act 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.

PG&E's operations at Diablo involve several development activities with the potential to adversely affect water quality. The primary activity is DCPP's intake and discharge of seawater, which is evaluated in Section D above. The project also includes several types of operational and maintenance activities (discharge structure, intake structure, kelp harvesting, forebay maintenance, intake structure bubble curtain, and east breakwater) that involve mechanical equipment or materials that have the potential to release harmful substances or pollution into coastal waters.

Since initial construction of DCPP, PG&E has applied for and received CDPs for other individual development projects at DCPP and within the Diablo Canyon lands, including construction of new buildings and access roads, replacement of facilities and equipment such as the steam generators, and others. These developments had the potential to release the types of contaminants identified in Section 30232 of the Coastal Act and were reviewed and conditioned as necessary to prevent and respond to release or spills.

PG&E's current relicensing request would involve continued operations of the previously approved development projects, which would require ongoing conformity to those previously approved CDPs. As part of this relicensing, PG&E has stated it does not anticipate the need for new development similar to these previously approved projects; however, the extended operations for up to 20 years introduces the potential and increased risk for water quality and spill-related impacts.

The DCPP site is located adjacent to the Pacific Ocean, and elevations across the site range from sea level to over 1,115 feet. The coastal terrace in the area of DCPP ranges in elevation from 60 to 150 feet above sea level and is approximately 1,000 feet wide with near-vertical cliffs along the ocean. Diablo Creek is the only creek or river within the project area and DCPP is located within the larger Irish Hills Coastal Watershed, and within that watershed DCPP is within the Diablo Creek drainage basin. Diablo Creek is

a single-channel creek bordered by low terraces and incised banks, with a narrow low-flow channel and depths from one to three feet. Diablo Creek originates in the Irish Hills and passes along the northern edge of the DCPP site. Diablo Creek was modified during initial construction of the site with culverts and fill. DCPP does not withdraw any surface water from Diablo Creek.

The proposed project has the potential to adversely affect coastal water quality through runoff conveyed over impervious surfaces which can increase erosion, and sedimentation, as well as the introduction of pollutants such as construction materials, chemicals, petroleum, cleaning products, pesticides, and other contaminants. DCPP includes a significant area of impervious surfaces, which in turn limits the infiltrative function and capacity of any permeable land on site and raises concerns about the volume and velocity of stormwater runoff that can be expected to leave the site.

Further, pollutants commonly found in runoff associated with development may include construction materials; petroleum hydrocarbons including oil and grease from vehicles; heavy metals; synthetic organic chemicals; dirt and vegetation; litter; and fertilizers, herbicides, and pesticides. The discharge of these pollutants to coastal waters can cause cumulative impacts such as eutrophication and anoxic conditions resulting in fish kills and diseases and adverse changes to species composition and size. Also, the discharge of pollutants can introduce excess nutrients into coastal waters causing algae blooms and increasing turbidity which both reduce the penetration of sunlight needed by aquatic vegetation that provides food and cover for marine species. Pollutants can disrupt the reproductive cycle of aquatic species and result in acute and sublethal toxicity in marine organisms leading to adverse changes in reproduction and feeding behavior. These effects would reduce the biological productivity and the quality of coastal waters, streams, wetlands, and reduce optimum populations of marine organisms.

Spill Prevention and Best Management Practices

As described in PG&E's consistency certification and CDP application, operations at DCPP pursuant to the new proposed operating licenses would avoid the release of hazardous material such as oil because PG&E has developed and implements operating procedures to ensure the proper handling and storage of such materials. For example, PG&E maintains appropriate registrations or licenses for such substances including a Hazardous Waste Facility Permit and an Underground Storage Tank (UST) Operating permit. PG&E also has a certified Spill Prevention, Control, and Countermeasures (SPCC) Plan to prevent discharges to surface waters or surface water tributaries. If a spill were to occur, PG&E has specific, dedicated plant operations and emergency response procedures available for rapid response.

Development included in the project such as maintenance of the intake structure, kelp harvesting, forebay maintenance, deployment of the bubble curtain, and maintenance of the east breakwater would require use of various materials and equipment that have the potential, if not properly managed or maintained, to result in pollutants being discharged into coastal waters. In its applications, PG&E states that these activities would be

controlled by Best Management Practices (BMPs) to prevent such discharges. However, the applications lack specificity on which specific BMPs would be implemented and, as such, their likely efficacy cannot be assessed. **Special Condition 13** would address this by requiring PG&E to implement a list of specific BMPs for project materials, debris and equipment to ensure the protection of coastal waters.

Surface Water Discharges
The DCPP site was initially designed as a series of plateaus cut into the original slope of the Irish Hills with elevation tiers around buildings. The areas surrounding the turbine, auxiliary, fuel handling, and containment buildings are graded so as to channel runoff into storm drain systems. All runoff generated at the site is eventually collected in gravity-driven catchments (swales, culverts and inlets) and then directed to either Diablo Creek or to the Pacific Ocean. Any discharges into Diablo Creek eventually flow to the Pacific Ocean. Outlets to Diablo Creek and the Pacific Ocean are permitted pursuant to the DCPP National Pollutant Discharge Elimination System (NPDES) permit which authorizes discharge from a total of 30 outfalls (**Exhibit 7**).

There are two large retention basins within the site that serve to settle and infiltrate stormwater prior to discharge, while areas around transformers have passive oil-water separators to prevent any substances from transformers from being conveyed into waterways. Pursuant to the State Water Resources Control Board (SWRCB) Industrial Storm Water Permit for Discharges Associated with Industrial Activities, DCPP is required to implement a Stormwater Pollution Prevention Plan that includes Best Management Practices (BMPs). Additionally, DCPP is required to sample for various constituents including total suspended solids (TSS), oil and grease, metals, tritium, gamma emitters, total organic carbon, polycyclic aromatic hydrocarbons (PAHs) and toxicity.

With implementation of these measures and use of stormwater containment infrastructure, the proposed project would not result in adverse impacts to water quality due to surface water discharges.

Sanitary Wastewater
Sanitary wastewater at DCPP is collected in a sequential sewage system. There are currently no available onsite sanitary waste treatment options such as a septic tank or a leach field. A leach field was constructed at DCPP and used once onsite during plant construction while the wastewater treatment system above was being constructed.

Use of this system has been discontinued, however, and liquid sewage now undergoes aeriation in a main treatment tank and then a settling period. Settleable solids are then pumped to a holding tank while decanted sewage flows are discharged through an outfall pursuant to the aforementioned NPDES permit issued by the Central Coast Regional Water Quality Control Board. Solid waste is trucked offsite for disposal.

Conclusion

Based on the above, the Commission finds that the proposed project includes measures meant to prevent and minimize the potential release of hazardous substances so as to maintain the quality of coastal waters in conformity with Sections 30231 and 30232 of the Coastal Act.

K. Commercial and Recreational Fishing

Section 30234.5 of the Coastal Act states:

> The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

DCPP is within a security zone that extends 2,000 yards (approximately 1.13 miles) in all directions from the power plant site, including offshore into the Pacific Ocean. The zone was established after September 11, 2001, pursuant to Code of Federal Regulations (CFR) 33 CFR § 165.1155. Entry into the security zone or remaining in the security zone is prohibited, unless authorized by the Coast Guard Captain of the Port, Los Angeles-Long Beach. Establishment and maintenance of this security zone excludes commercial and recreational fishing at this location.

Section 30234.5 of the Coastal Act requires the economic, commercial and recreational importance of fishing to be recognized and protected. Due to the establishment of the security zone there is no commercial or recreational fishing, from either vessels or from shore, in the coastal waters within the approximately 1.13 mile radius of DCPP. But for relicensing and extended operations, this zone would either be reduced or terminated at some point during or after DCPP's decommissioning process.

Commercial fishing in the area near DCPP outside of this security zone includes various species of fish, crustaceans, and mollusks with the largest landing being market squid (*Doryteuthis opalescens*) at over 79,000 pounds in 2019. These fisheries were valued at over $3.9 million to the local economy in 2019. Recreational fishing in the area includes sport fishing from vessels as well as shore fishing from nearby beaches and coastal areas.

Although fishing is not allowed in this zone, the prohibited area is relatively small compared to the available open water fishing areas beyond the zone. However, it should be noted at directly upcoast of DCPP's closure area is the Pt. Buchon State Marine Reserve and State Marine Conservation Area, an additional area of fishing limitations covering approximately 19 square miles of rocky reefs, sandy seafloor and beaches, kelp forests, rocky intertidal areas, and offshore pinnacles. Accordingly, the DCPP closure area and the MPAs have a cumulative effect on fisheries in the area.

The limitations on shore fishing from the DCPP closure area are relatively small, however, due to the remote location and restricted access provided to it. Further, as described in Section D above, the presence of the protected shoreline within the

security zone, MPAs, and along the larger stretch of Diablo Canyon lands likely provides substantial benefit to nearshore and other fish species that live along or migrate through this area, which would be beneficial to commercial or recreational fishing in adjacent waters.

Therefore, considering the relatively small area of the security zone in light of the available areas outside of the security zone, the potential adverse impacts to commercial and recreational fishing as a result of DCPP operations are minimal. As such, the Commission finds that the proposed project will not result in substantial effects on commercial and recreational fishing and that it conforms to Section 30234.5 of the Coastal Act.

L. California Environmental Quality Act

Section 13096 of the Commission's administrative regulations requires Commission approval of coastal development permit 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 CEQA. Section 21080.5(d)(2)(A) of 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. The Commission's regulatory program for reviewing and granting CDPs has been certified by the Resources Secretary to be the functional equivalent of environmental review under CEQA. (14 CCR § 15251(c).)

The Commission incorporates its findings on Coastal Act consistency as if set forth in full herein. As discussed in the findings, the project as conditioned herein incorporates measures necessary to avoid any significant environmental effects under the Coastal Act, and there are no less environmentally damaging feasible alternatives or mitigation measures. Furthermore, project activities authorized under this CDP are categorically exempt from CEQA pursuant to Public Resources Code section 25548.2, subdivision (b) and California Code of Regulations, title 14, section 15301, and not subject to any exception under California Code of Regulations, title 14, section 15300.2. Therefore, the project activities are consistent with CEQA.

APPENDIX A – SUBSTANTIVE FILE DOCUMENTS

1. A-3-SLO-04-035 (PG&E, Construct and Operate a Radioactive Waste Storage Facility Known As An Independent Spent Fuel Storage Installation Within The High Security Area Of The Diablo Canyon Power Plant Complex).

2. Alvarez-Romero et al. 2011. Integrated Land-Sea Conservation Planning: The Missing Links. Annu. Rev. Ecol. Evol. Syst. 2011. 42:381–409.

3. CC-0003-23 (PG&E, Federal Consistency Certification Request for Federal Permit and License Applicants – Diablo Canyon Power Plant License Renewal Application).

4. E-06-011/A-3-SLO-06-017 (PG&E, Remove Diablo Canyon Power Plant's Existing Steam Generators And Replace With New Generators).

5. Gove, J.M., Williams, G.J., Lecky, J. et al. Coral reefs benefit from reduced land–sea impacts under ocean warming. Nature 621, 536–542 (2023). https://doi.org/10.1038/s41586-023-06394-w

6. Raimondi, Peter. 2010. Variation in Entrainment Impact Estimation Based on Different Measures of Acceptable Uncertainty. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2011-020.

7. Steinbeck, Hedgepeth, Raimondi, Gailliet, Mayer. 2007. Assessing Power Plant Cooling Water Intake System Entrainment Impacts. California Energy Commission, Consultation Report. CEC-700-2007-010.

8. Tallis, Ferdana, Gray. 2008. Linking Terrestrial and Marine Conservation Planning and Threats Analysis. Conservation Biology. Volume 22, No. 1, 120-130.

9. Wilmot et al. 2022. Characterizing Mauka-to-Makai Connections for Aquatic Ecosystem Conservation on Maui, Hawaii. Ecological Informatics. 70. 101704.