

## 5. Alternatives Analysis (Phases 1 and 2)

### 5.1 Introduction

As noted in Section 1.0, *Introduction*, the County of San Luis Obispo (County), as Lead Agency under CEQA, is preparing this EIR for the Diablo Canyon Power Plant (DCPP) Decommissioning Project (Proposed Project). Section 2.0, *Project Description*, provides detailed information on the proposal by PG&E for the decommissioning of the DCPP, which includes dismantling and removing the two existing nuclear reactors (Units 1 and 2) and much of the supporting infrastructure and restoration of the site per the Final Site Restoration Plan (see Section 2.4.4, *Grading and Landscaping (Final Site Restoration)*). The operational aspects of the DCPP following completion of the Proposed Project or any of the proposed alternatives would be limited to managing spent nuclear fuel (SNF) and Greater Than Class C (GTCC) waste storage, continued operation of the existing 230 and 500 kV switchyards, and associated security.

The State CEQA Guidelines (§15126.6(a)) require the County to “describe a range of reasonable alternatives to the [Proposed Project], or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives.” This section describes the screening methodology to identify reasonable alternatives, identifies alternatives eliminated from further consideration, and provides descriptions and impact analyses of each alternative considered. As required in CEQA, Section 5.5.1 identifies the environmentally superior alternative.

### 5.2 Selection of Alternatives

#### 5.2.1 Guidance on Alternatives Development and Evaluation

The State CEQA Guidelines provide the following guidance for evaluating alternatives.

- An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. An EIR is not required to consider infeasible alternatives. (§15126.6(a))
- The discussion of alternatives shall focus on alternatives to the project or its location which can avoid or substantially lessen any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly. (§15126.6(b))
- In selecting a range of potential reasonable alternatives to the project, the lead agency shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. Among the factors that a lead agency may use to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. (§15126.6(c))
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. If an alternative would cause one or

more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. (§ 15126.6(d))

- The specific alternative of “no project” shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The “no project” analysis shall discuss the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved. (§ 15126.6(e)(1) and (e)(2))

## 5.2.2 Alternatives Screening Methodology

Alternatives to the Proposed Project were identified by the County and by other agencies and the public in comments on the Notice of Preparation. All suggested alternatives were screened, and either retained for further analysis or eliminated as described below. The alternatives screening process consisted of the following steps:

**Step 1:** Define the alternatives to allow comparative evaluation.

**Step 2:** Evaluate each alternative using the following criteria:

- The extent to which the alternative could accomplish most of the basic objectives of the Proposed Project (see Section 1.1, *Project Location and Objectives*).
- The potential feasibility of the alternative, considering factors such as site suitability, economic viability, availability of infrastructure, General/Local Coastal Plan consistency, and consistency with other applicable plans and regulatory limitations (CEQA Statute §21061.1 defines “feasible” as “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors”).
- The extent to which the alternative could avoid or lessen one or more of the significant environmental impacts of the Proposed Project.

**Step 3:** Determine the suitability of the proposed alternative for full analysis in the EIR based on Steps 1 and 2 above. Alternatives considered unsuitable are eliminated, with appropriate justification, from further consideration.

For the screening analysis, the technical and regulatory feasibility of potential alternatives was assessed at a general level. The assessment of feasibility was conducted by using “reverse reason” to identify anything about the alternative that would be infeasible based on technical or regulatory grounds. CEQA does not require elimination of a potential alternative based on cost of construction and operation/maintenance. At the screening stage, potential impacts of the alternatives or the Project cannot be evaluated with any measure of certainty; however, elements of the Project that are likely to be sources of impacts can be identified.

In general, characteristics used to eliminate alternatives from further consideration included:

- Inconsistency with the Project’s purpose and need
- Limited effectiveness in reducing environmental impacts

- Permitting feasibility
- Potential for greater adverse effects
- Potential for inconsistency with adopted agency plans and policies
- Feasibility when compared to other alternatives under consideration

Feasible alternatives that did not clearly offer the potential to reduce significant environmental impacts of the Proposed Project and infeasible alternatives were removed from further analysis. In the final screening step, environmental advantages and disadvantages of the remaining alternatives were carefully weighed with respect to their potential for overall environmental advantage, technical feasibility, and consistency with the Proposed Project objectives. Under both the Proposed Project and alternatives, decommissioning of the DCPP would continue to be subject to the regulations and procedures of the US Nuclear Regulatory Commission (NRC) for the decommissioning of nuclear generating stations and management of SNF.

The State CEQA Guidelines require the consideration of a “no project” alternative and to identify, under specific criteria, an “environmentally superior” alternative. If the environmentally superior alternative is determined to be the “no project” alternative, the EIR must identify an environmentally superior alternative among the other alternatives (State CEQA Guidelines §15126.6(e)(2)).

### 5.2.3 Impacts of Major Concern

Resource areas of particular importance in the consideration of alternatives for this EIR include: (1) Air Quality; (2) Greenhouse Gas (GHG) Emissions; (3) Biological Resources – Terrestrial; (4) Biological Resources – Marine; (5) Cultural Resources – Archaeology and Built Environment; (6) Cultural Resources – Tribal Cultural Resources; (7) Hazardous and Radiological Materials; and (8) Hydrology and Water Quality.

As discussed in Section 4.2, *Air Quality*, implementation of the Proposed Project would result in potentially significant impact under Impact AQ-2 and Impact AQ-3 related to a net increase in criteria air pollutant emissions and exposure of sensitive receptors to substantial pollutant concentrations. Phase 1 activities at the DCPP site would result in criteria air pollutant emissions at rates exceeding the San Luis Obispo County Air Pollution Control District (SLOAPCD) thresholds of significance for ozone precursors (NO<sub>x</sub> [oxides of nitrogen] and VOC [volatile organic compounds]). Mitigation Measure (MM) AQ-1 requires PG&E to implement a Decommissioning Activity Management Plan (DAMP) consistent with the approved Project Description. MM AQ-2 requires PG&E to achieve off-site emissions reductions to offset the effects of any Project-related ozone precursor emissions over 2.5 tons/quarter (NO<sub>x</sub> and VOC combined) prior to initiating Phase 1. With implementation of these mitigation measures, air quality impacts are less than significant. Similarly, as discussed in Section 4.9, *Greenhouse Gas Emissions*, the Proposed Project would result in a potentially significant impact under Impact GHG-1 as both Phase 1 and Phase 2 activities would generate GHG emissions that exceed the SLOAPCD significance threshold. MM GHG-1 could feasibly reduce or offset GHG emissions to a less-than-significant level.

Section 4.2, *Biological Resources – Terrestrial*, analyzes potential direct impacts of the Proposed Project on terrestrial biological resources, such as clearing or trampling of vegetation, loss of breeding sites and habitat, disturbance to wildlife from construction or demolition of structures, and mechanical crushing of animals or their burrows by vehicles or equipment. In addition, indi-

rect biological resource impacts from the Proposed Project could include the disruption of native seed banks, disruption of prey base or increased predation through alterations of the physical landscape from Proposed Project features, increased erosion and degradation of water quality, changes in water runoff due to alterations in topography, noise, and vibration from demolition, and spread of invasive species. Excessive fugitive dust could also displace breeding birds and/or reduce photosynthetic capacity in plants over time and inhibit reproduction by physically coating reproductive structures or excluding insect pollinators. Implementation of MMs BIO-1 through BIO-20, AQ-1, EM-2, HWQ-1, and HWQ-2 would reduce all potential impacts to terrestrial biological resources to a less-than-significant level.

Section 4.3, *Biological Resources – Marine*, discusses the direct and indirect impacts of the Proposed Project on marine resources, specifically associated with the removal of the Discharge Structure, restoration of the Discharge Structure area, closure of the Intake Structure, and operation of the Marina by a third party. Impacts of the Proposed Project on marine biological resources include degradation of marine habitats due to stormwater runoff or other discharges and the potential for the spread of invasive and non-native marine species; and direct impacts such as turbidity, debris accumulation, vessel collision with listed species, and increased underwater noise levels associated with offshore activities. Implementation of MMs MBIO-1 through MBIO-11 and MM HWQ-3 would reduce potential impacts to marine biological resources to the extent feasible; however, due to the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4 and MBIO-5), impacts associated with Discharge Structure removal and restoration activities in Phases 1 and 2 of the Proposed Project (Impacts MBIO-1, 2, and 4) would remain significant and unavoidable.

As discussed in Section 4.4, *Cultural Resources – Archaeology and Built Environment*, the Proposed Project would result in significant and unavoidable impacts to unanticipated buried historical resources, unique archaeological resources, and human remains during Phase 1 and Phase 2, even with implementation of MMs CUL-1 through CUL-10 due to the sensitive nature of the DCPD site, resulting in significant and unavoidable impacts. Similarly for Tribal Cultural Resources, Section 4.6, *Cultural Resources – Tribal Cultural Resources*, concludes that impacts to unanticipated buried tribal cultural resources, even with implementation of MMs CUL-1 through CUL-10, would remain significant and unavoidable for both Phase 1 and Phase 2.

As discussed in Section 4.10, *Hazardous and Radiological Materials*, decommissioning activities could expose site workers and nearby residents to hazardous materials from known or unknown sources and create soil or groundwater contamination from accidental spills or releases of hazardous materials. MMs HAZ-1 through HAZ-3, HWQ-1, and HWQ-2 would reduce impacts to less than significant. Established programs, processes, and procedures would be performed in compliance with NRC requirements, which are designed to limit or eliminate exposure to radioactive materials. These technical and programmatic controls have been proven reliable and effective at numerous reactor decommissioning projects for over 30 years, with no cases of radioactive releases or exposures that exceed NRC and USEPA standards. Due to the risks associated with potential spills or releases of hazardous or radiological materials, an alternative evaluating more stringent remediation requirements (lower than the NRC's 25 mrem per year remediation requirement) was considered but dismissed without full analysis given the safe closure and remediation of plants across the country without any major spills or radioactive releases (see

Section 5.3.6, *Less Than 25 mrem Threshold*). As a result, impacts from radiological materials resulting from the Proposed Project are expected to be less than significant. Decommissioning activities would increase safety and fire hazard concerns for construction-related accidents, hazard spills, and hot work activities such as welding, cutting grinding, and increased combustible loading. To ensure sufficient fire protection services and implementation of wildfire safety measures, MMs PSU-1 and PSU-2 would be implemented, reducing impacts to less than significant. As discussed in Section 4.11, *Hydrology and Water Quality*, the Proposed Project may affect hydrology and water quality during onshore and offshore decommissioning activities if such activities discharge chemicals, debris, or sediment to surface or marine waters, or suspend marine sediment within the offshore area. Implementation of MMs EM-2, HWQ-1, HWQ-2, HWQ-3, MBIO-3, and MBIO-8 would reduce potential impacts related to hydrology and water quality to a level that is less than significant.

### 5.2.4 Summary of Screening Results

Table 5-1 lists the potential alternatives identified by the County, responsible agencies, and the public through the scoping process. Table 5-1 indicates if the potential alternatives were eliminated from further consideration (see rationale in Section 5.3, *Alternatives Eliminated from Further Consideration*) or evaluated in detail (see Section 5.4, *Alternatives Evaluated in this EIR*).

**Table 5-1. Potential Alternatives to the Proposed Project**

<b>Alternatives Eliminated from Further Consideration</b>	<ul style="list-style-type: none"> <li>• Intake Structure Removal</li> <li>• Breakwater Removal</li> <li>• Full Removal of Onshore Subsurface Structures</li> <li>• Partial Discharge Structure Removal</li> <li>• Discharge Structure Leave-in-Place/Bulkhead</li> <li>• Less Than 25 mrem Remediation Threshold</li> <li>• Santa Maria Valley Railyard – Santa Maria (SMVR-SM) Site</li> </ul>
<b>Alternatives Evaluated in this EIR</b>	<ul style="list-style-type: none"> <li>• SAFSTOR Alternative</li> <li>• California State Lands Commission (CSLC) No Project Alternative</li> <li>• Minimum Demolition Alternative</li> <li>• Firing Range Minimum Earthwork Alternative</li> <li>• Firing Range Partial Backfill Alternative</li> <li>• No Waste by Rail Alternative</li> <li>• Delayed Decommissioning</li> <li>• CSLC Full Removal Alternative</li> </ul>

Additional comments related to alternatives were brought up during scoping, which are otherwise addressed in the EIR, as follows:

#### Scoping Comment

- Analyze all feasible alternatives as means of reducing effects to biological resources.
- Evaluate rail routes that that may reduce potential risk of exposure to populated areas.

#### Where Addressed in EIR

Section 5.4 – Multiple alternatives evaluated in this EIR reduce biological resources impacts.

Section 5.4.6 – The No Waste by Rail Alternative eliminates rail use; rail routes are determined by Union Pacific Railroad.

### **Scoping Comment**

- Consider alternative sites for waste disposal should the proposed sites become unavailable and if wastes are stored longer than planned.
- Address the No Project Alternative as a zero-emission alternative.
- Clarify if non-decommissioning alternatives would require new applications and undergo a new process.

### **Where Addressed in EIR**

Section 2.3.19.3 – Multiple disposal sites are identified for each waste class, except for Class B/C waste where the only available site is Waste Control Specialists in Andrews, Texas.

Section 4.8 – The Proposed Project is analyzed based on a “no net increase” greenhouse gas emissions threshold.

Section 1.2.1 – Discusses the DCPP license expiration and retirement.

## **5.3 Alternatives Eliminated from Further Consideration**

Six potential alternatives were identified, reviewed, and eliminated from further consideration. Two of these alternatives involve removal of the Intake Structure and Breakwaters, which are covered under the California State Lands Commission (CSLC) Full Removal Alternative (see Section 5.4.8). These potential alternatives and the rationale for eliminating them from further consideration are discussed below.

### **5.3.1 Intake Structure Removal**

#### **5.3.1.1 Description**

This alternative was identified by PG&E in its application to the County. Under this alternative all the same decommissioning/removal activities would occur as described for the Proposed Project; however, instead of only modifying the Intake Structure to load barges for bulk waste transport, the Intake Structure would be completely removed back to the water tunnels and the entrance to the tunnels sealed with a concrete bulkhead. Details for implementing this alternative are described in detail in Section 5.4.8, *Alternative 8: CSLC Full Removal Alternative*. Note that as part of the CPUC 2021 Nuclear Decommissioning Cost Triennial Proceedings, retention of the Intake Structure was identified as a cost savings measure for repurposing of plant facilities, with a decommissioning cost savings of approximately \$37.5 million (PG&E, 2021e – Table 6-2).

#### **5.3.1.2 Rationale for Elimination**

This alternative would meet the Proposed Project objectives and may partially fulfill the CSLC lease requirements, which require removal of all infrastructure within the CSLC jurisdiction. Additionally, there are no identified feasibility issues associated with this alternative. However, this alternative would result in greater environmental impacts than the Proposed Project, including impacts related to air quality, biological resources, water turbidity, and water quality, due to the additional disturbance to the marine environment. Therefore, this alternative is eliminated from further analysis as a stand-alone alternative to the Proposed Project. Nevertheless, in consideration of the CSLC lease requirements, this alternative has been analyzed in detail as part of the CSLC Full Removal Alternative (see Section 5.4.8).

## 5.3.2 Breakwater Removal

### 5.3.2.1 Description

This alternative was identified by PG&E in its application to the County. Under this alternative all the same decommissioning/removal activities would occur as described for the Proposed Project; however, the East and West Breakwaters around the Intake Cove would also be removed, and the marine habitat restored. Details for implementing this alternative are described in detail in Section 5.4.8, *Alternative 8: CSLC Full Removal Alternative*.

### 5.3.2.2 Rationale for Elimination

This alternative would meet the Proposed Project objectives and may partially fulfill the CSLC lease requirements, which require removal of all infrastructure within the CSLC jurisdiction. Additionally, there are no identified feasibility issues associated with this alternative. However, this alternative would result in greater environmental impacts than the Proposed Project, including impacts related to air quality, biological resources, water turbidity, and water quality, due to the additional disturbance to the marine environment. Therefore, this alternative is eliminated from further analysis as a stand-alone alternative to the Proposed Project. Nevertheless, in consideration of the CSLC lease requirements, this alternative has been analyzed in detail as part of the CSLC Full Removal Alternative (see Section 5.4.8).

## 5.3.3 Full Removal of Onshore Subsurface Structures

### 5.3.3.1 Description

For this alternative greater onshore structure removal would occur than under the Proposed Project, which generally leaves subsurface structures in place 3 feet below the existing adjacent grade with certain contaminated structures removed to greater depths (or completely) and back-filled per NRC regulations. The foundations associated with the following structures are anticipated to remain in place under the Proposed Project and would be removed under this alternative, as shown in Figure 5-1 (ERM, 2023).

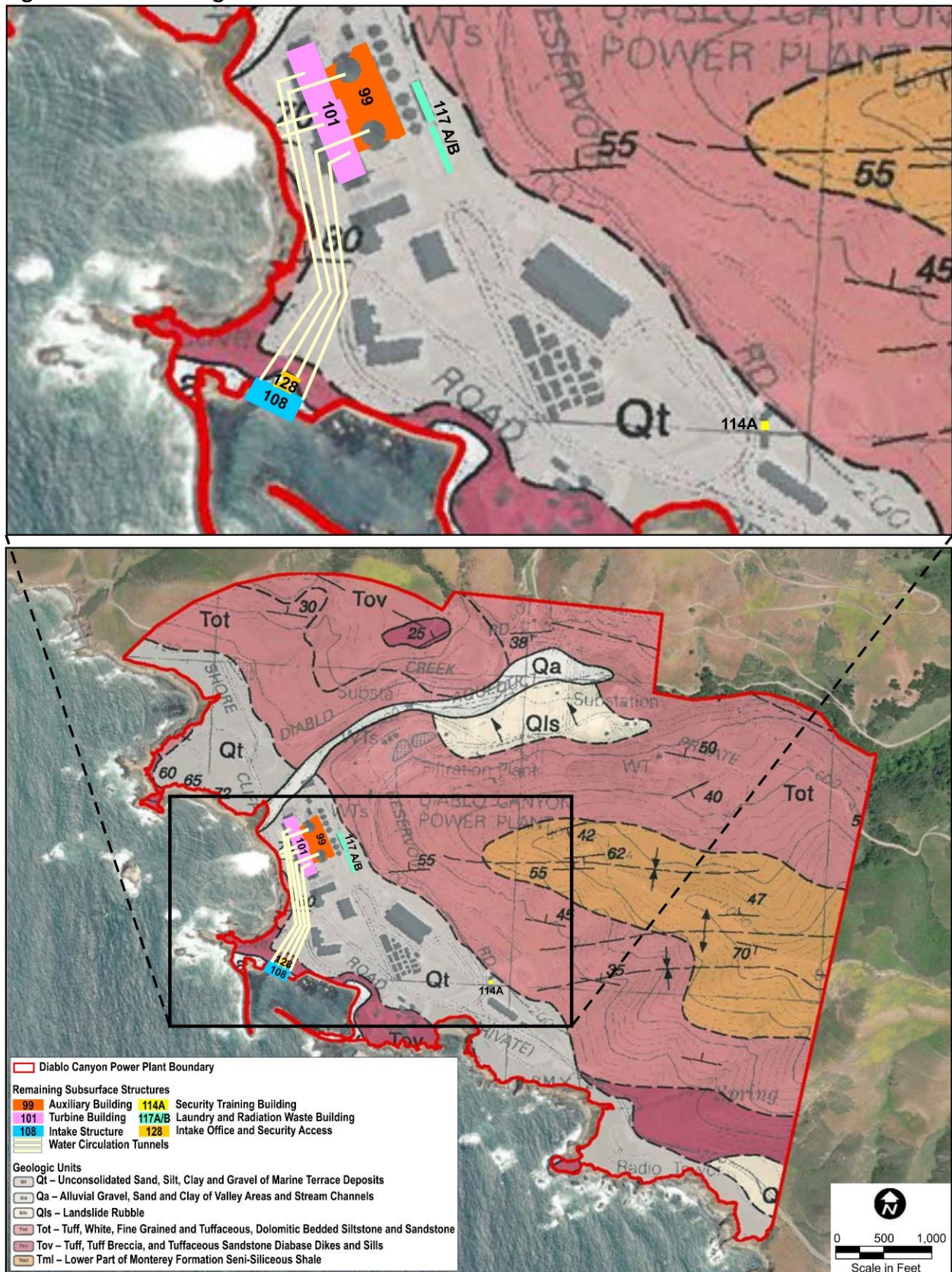
- Auxiliary Building (Facility ID 99) would be demolished to the perimeter foundation walls and lowermost floor slabs. Approximately 4,700 cubic yards of concrete associated with the perimeter foundation walls and the lowermost floor slabs at depths varying approximately from 3 feet to 30 feet below existing ground surface per historical records.
- Turbine Building (Facility ID 101) would be demolished to the perimeter foundation walls and lowermost floor slabs. Approximately 11,500 cubic yards of concrete associated with the perimeter foundation walls and the lowermost floor slabs at depths varying approximately from 3 feet to 17 feet below ground surface per historical records.
- The Intake Structure (Facility ID 108) tunnels are located approximately at depths 0 feet to 50 feet below existing ground surface per historical records. The amount of concrete associated with these structures has not been estimated.

- Security Training Building (Facility ID 114A) footings are anticipated to extend 5 feet below existing ground surface based on historical records. Footing elements constructed between 3 and 5 feet below existing ground surface constitute approximately 20 cubic yards of concrete.
- Laundry and Radiation Waste Building (Facility ID 117A/B) footings are anticipated to extend 5 feet below existing ground surface based on historical records. Footing elements constructed between 3 and 5 feet below existing ground surface constitute approximately 240 cubic yards of concrete.
- Intake Office & Security Access (Facility ID 128) footings are anticipated to extend 18 feet below existing ground surface based on historical records. Footing elements constructed between 3 and 18 feet below existing ground surface constitute approximately 2,700 cubic yards of concrete.
- The Water Circulation Tunnels are located approximately at depths 7 feet to 50 feet below existing ground surface per historical records. The amount of concrete associated with these structures has not been estimated.

The estimated volumes of concrete provided do not include the removal of the concrete surfaces as part of the decontamination process, such that the volume of additional concrete removed under this alternative may be less. The extent of additional subsurface structure removals could vary ranging from greater than 3 feet (partial) to full removal. The greatest impacts would be associated with full removal of subsurface structures. All other aspects of this alternative would be identical to the Proposed Project.



Figure 5-1. Remaining Subsurface Onshore Structures to be Removed



Source: Dibble and Minch, 2006 (basemap); ERM, 2023.

### 5.3.3.2 Rationale for Elimination

This alternative is feasible and consistent with the Proposed Project objectives. Under this alternative, the onshore site would be returned to a more natural condition because it would reduce the amount of underground infrastructure remaining on site in perpetuity. Any contamination would be removed as required by the NRC. Locations where structures are removed to full depth would be disturbed and subject to coastal and surface erosion, particularly near the bluffs. The potential for coastal erosion processes to uncover subsurface structures in the future would be monitored as part of MM GEO-3 (*Monitoring and Reporting of Potential Subsurface Structure Exposure*) and therefore is not considered a significant impact (see Section 4.8, *Geology, Soils, and Coastal Processes*, and Section 7.1, *Climate Change and Sea-Level Rise*). The potential for subsurface structures to be exposed as a result of improper site drainage would be mitigated through implementation of MMs HWQ-1 (*Prepare and Implement Drainage Plans*) and HWQ-2 (*Long-Term Erosion and Sediment Control Plan*).

Additional removal of subsurface structures would result in substantially more impacts for many issue areas. Based on currently available information, it is anticipated that the removal of subsurface structures would result in more air and GHG emissions from additional earth movement and increased use of construction equipment, trucks, and barges; greater biological resources impacts due to a longer period of disturbance; greater potential for exposing and impacting potentially sensitive cultural or tribal cultural resources; and greater potential for soil erosion and associated water quality impacts. Additionally, noise associated with off-site trucking would be extended; and there would be an increase in the duration and perhaps intensity of off-site trucking and barging activities due to the additional materials unearthed. Because this alternative would result in extensive additional impacts and does not reduce any of the significant impacts of the Proposed Project, this alternative is eliminated from further analysis.

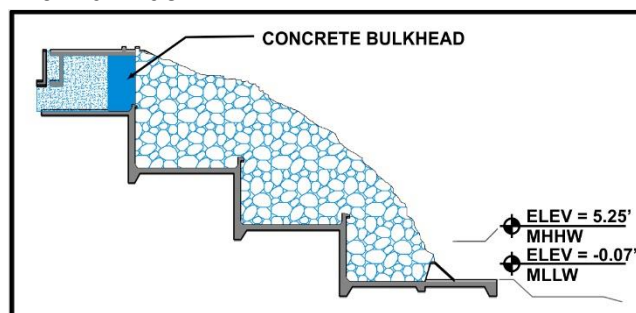
### 5.3.4 Partial Discharge Structure Removal

#### 5.3.4.1 Description

This alternative was considered by PG&E and a detailed environmental benefits analysis was completed evaluating all discharge backfill options (full backfill, partial backfill, no backfill). (PG&E, 2022c). Under this alternative all the same decommissioning activities would occur as described for the Proposed Project; however, instead of completely removing the Discharge Structure, the floor and side walls would remain. Various options for backfilling the Discharge Structure area were also considered, including no backfill, partial backfill, or full backfill,

as depicted in Figure 5-2 (side walls are not shown to allow the backfill to be shown). Approximately 11,292 1-ton quarry rocks would be required for complete backfill or 1,249 1-ton quarry rocks for partial backfill, requiring up to 13 barge trips or as little as two barge trips, respectively,

**Figure 5-2. Partial Discharge Structure Removal with Full Backfill**



Source: PG&E, 2021a.

to source the rocks from Santa Catalina Island (PG&E, 2022c). A concrete bulkhead would continue to be placed on the structure as under the Proposed Project; however, it would be located closer to the shoreline as opposed to slightly farther inland where the water tunnels begin.

### 5.3.4.2 Rationale for Elimination

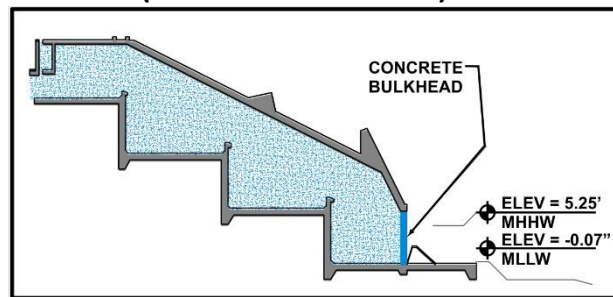
This alternative would generally meet the Proposed Project objectives and would reduce the construction activities necessary for removal of the Discharge Structure, thereby resulting in a minor reduction in air emissions. Regarding the different backfill options, the environmental benefits analysis concluded that full backfill was the most environmentally beneficial as the quarry rock would provide incidental marine and terrestrial habitat, including hiding areas for fish and roosting areas for birds. Backfilling the area also helps to fill the hole left behind that would otherwise result in a noticeable change in the topography of the coastline. However, by leaving elements of the Discharge Structure in place, the industrial nature of the DCPP site and its effects on the natural landscape would persist in perpetuity and would otherwise conflict with California Coastal Commission (CCC) and California State Lands Commission (CSLC) goals of returning the DCPP site to a more natural condition. Additionally, the potential exists that residual radiological contamination could exist the floor and side walls, which could ultimately result in additional removals as necessary to meet the NRC Part 50 facility operating license termination requirements. Due to the unknown level of additional removals, and concerns related to the difficult process of, and costs associated with, tracing the specific areas of radiological contamination that could remain, and the limited environmental benefits of this alternative, it was eliminated from further consideration.

## 5.3.5 Discharge Structure Leave-in-Place/Bulkhead

### 5.3.5.1 Description

This alternative was considered by PG&E and an environmental benefits analysis was completed evaluating all discharge backfill options (full backfill, partial backfill, no backfill). Under this alternative all the same decommissioning/removal activities would occur as described for the Proposed Project; however, the entire Discharge Structure would remain, and the main opening (at the lowest elevation) would be closed off with a concrete bulkhead and the interior filled with flowable fill (see Figure 5-3). Similar to the Partial Discharge Structure Removal Alternative (see Section 5.3.4), an additional option was considered to add approximately 462 1-ton quarry rock as backfill to the lowermost portion of the Discharge Structure (not depicted in Figure 5-3), which would require one barge trip to source rocks from Santa Catalina Island (PG&E, 2022c).

**Figure 5-3. Discharge Structure Leave-in-Place/Bulkhead (No Additional Backfill)**



Source: PG&E, 2021a.

Similar to the Partial Discharge Structure Removal Alternative (see Section 5.3.4), an additional option was considered to add approximately 462 1-ton quarry rock as backfill to the lowermost portion of the Discharge Structure (not depicted in Figure 5-3), which would require one barge trip to source rocks from Santa Catalina Island (PG&E, 2022c).

### 5.3.5.2 Rationale for Elimination

This alternative would generally meet the Proposed Project objectives and would reduce the amount of construction activities necessary for removal of the Discharge Structure, thereby resulting in a reduction in emissions, even more so than the Partial Discharge Structure Removal alternative (see Section 5.3.4). Regarding the different backfill options, the environmental benefits analysis concluded that the addition of backfill was more environmentally beneficial as the quarry rock would provide some incidental marine habitat, including hiding areas for fish. This alternative avoids creating a large hole within the bluffs, but the industrial nature of the DCPD site and its effects on the natural landscape would persist in perpetuity and would otherwise conflict with CCC and CSLC goals of returning the DCPD site to a more natural condition. The addition of quarry rock would mostly be contained within the structure and therefore would not provide incidental habitat benefits, other than the small portion beyond the bulkhead (not depicted in Figure 5-3).

With leaving the Discharge Structure in place, the potential exists that residual radiological contamination could remain, which could ultimately result in additional removals as necessary to meet the NRC Part 50 facility operating license termination requirements. Due to the unknown level of additional removals, and concerns related to the difficult process of tracing the specific areas of radiological contamination that could remain, which in the end may lead to similar impacts at potentially a higher cost than the Proposed Project, as well as the limited environmental benefits of this alternative, it was eliminated from further consideration.

## 5.3.6 Less Than 25 mrem Remediation Threshold

### 5.3.6.1 Description

This alternative considers applying a more stringent, lower radiological threshold than the NRC's 25 millirem per year threshold.

#### ***Federal Jurisdiction and Preemption***

The Federal government has long occupied the field of nuclear safety regulation and has therefore historically preempted states from enforcing their own separate nuclear safety regulations. In 1954, the United States Congress enacted the Atomic Energy Act of 1954 largely to encourage private corporations to participate in the use, control, and ownership of nuclear energy technology (Justia.com, 2023b, 2023c). When private entities remained reluctant to enter the sector, the 1957 Price-Anderson Act aimed to “remove the economic impediments in order to stimulate the private development of electric energy by nuclear power while simultaneously providing the public compensation in the event of a catastrophic nuclear incident (Burger, 1978).” The Price-Anderson Act was amended in 1966 in an effort to consolidate, coordinate, and expedite any case management associated with the same “extraordinary nuclear occurrence” to provide uniform results (FindLaw, 2018; Cornell Law School, 2023). The 1998 Price-Anderson Amendments Act further applied federal jurisdiction to any action resulting from a nuclear incident (Cornell Law School, 2023).

Prior to 1997, the NRC determined the criteria for release of each nuclear reactor on a site-specific basis. In 1997, the NRC adopted amendments to 10 CFR Parts 20, 30, 40, 50, 51, 70, and

72 regarding the decommissioning of licensed facilities that process or use nuclear resources and remediation of those facilities' lands and structures (NRC, 1997a).<sup>47</sup> The 1997 regulatory changes codified radiological criteria for decommissioning that allow for some site-specific consideration, but established a standard threshold allowing a licensee to terminate its operating license if the total effective dose equivalent (TEDE) for the critical group is less than 25 millirem (mrem) per year. The "critical group" is intended to reflect individuals most likely to face the maximum exposure to radiological doses due to activities conducted by the NRC licensee that is terminating its operating license (NRC, 2002).<sup>48</sup>

The 1997 regulation goes into additional detail about the calculations necessary to determine the "as low as reasonably achievable," or ALARA, target, which is a site-specific calculation related to a cost-benefits analysis evaluating the benefits of attaining a more stringent remediation threshold against the costs of the potential transportation, air quality, and cultural impacts (NRC, 1997a).<sup>49</sup> The NRC specifically found that "In actual situations, it is likely that, even if no specific analysis of ALARA were required for soil and concrete removal, the actual dose will be reduced to below 0.25 mSv/y (or 25 mrem per year) because of the nature of the removal process (NRC, 1997a)."

The NRC and the US Environmental Protection Agency (USEPA) both oversee the remediation of sites that have potential radiological contamination. In 1999, the US House of Representatives Appropriations Committee directed the two federal agencies to adopt a memorandum of understanding to clarify USEPA's involvement at NRC-regulated sites (i.e., nuclear power generation facilities). USEPA has historically contended that, once a site's NRC license has been terminated,

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<sup>47</sup> 62 Federal Register No. 139, page 39058-39092 (dated Monday July 21, 1997), especially page 39064, which concludes "... a generic dose constraint or limitation for decommissioning sources of ... 25 mrem/y) for unrestricted release of a site is reasonable from the standpoint of providing a sufficient and ample margin of safety for protection of public health." (NRC, 1997a)

<sup>48</sup> See NUREG-0586, Supplement 1 Volume 1, page 2-5, footnote (a): The "critical group" is that group of individuals reasonably expected to receive the highest exposure to residual radioactivity within the assumptions of a particular scenario. The average dose to a member of the critical group is represented by the average of the doses for all members of the critical group, which in turn is assumed to represent the most likely exposure situation. For example, when considering whether it is appropriate to "release" a building that has been decontaminated (allow people to work in the building without restrictions), the critical group would be the group of employees that would regularly work in the building. If radiation in the soil is the concern, then the scenario used to represent the maximally exposed individual is that of a resident farmer. The assumptions used for this scenario are prudently conservative and tend to overestimate the potential doses. The added "sensitivity" of certain members of the population, such as pregnant women, infants, children, and any others who may be at higher risk from radiation exposures, are accounted for in the analysis. However, the most sensitive member may not always be the member of the population that receives the highest dose. This is especially true if the most sensitive member (e.g., an infant) does not participate in activities that provide the greatest dose or if they do not eat specific foods that cause the greatest dose. (NRC, 2002)

<sup>49</sup> 62 Federal Register No. 139, page 39060 suggests that ALARA should consider how doses would be quantified, what \$ per person-rem value should be assigned, and how non-radiological risks/impacts should be evaluated. (NRC, 1997a)

USEPA's standards should apply to the site (USEPA, 2000).<sup>50</sup> USEPA's guidance for implementing the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) suggests each radiological site should be remediated to 15 mrem per year of potential annual exposure.

In 2002, the NRC and the USEPA signed a Memorandum of Understanding (MOU) agreeing that the NRC has jurisdiction over decommissioning nuclear power plant sites, but in instances where a site may exceed the CERCLA remediation thresholds following decommissioning, the NRC shall seek the USEPA's assistance in reviewing the license termination plan (NRC and USEPA, 2002). USEPA further agreed to only resolve any CERCLA issues that are outside of the NRC's jurisdiction at NRC-licensed site. That includes any chemical or hazardous wastes that may have been used or created at the site, pursuant to the Federal Resource Conservation and Recovery Act (RCRA).

Additionally, the NRC, USEPA, US Department of Energy (DOE), and US Department of Defense (DOD) created a joint Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) in August 2000, which provides information about how to conduct final radiological status surveys (NRC, 2000b). The MARSSIM aims to provide a consistent approach across Federal agencies responsible for overseeing radiological cleanup to ensure an effective use of staff and licensee resources while also meeting federally established criteria for site release and license termination.

### ***Radioactive Doses Defined***

According to the NRC, a mrem is a biological dose equivalent, which is measured as 1/1000<sup>th</sup> of a roentgen equivalent man (rem) and the calculation depends on the quality factor<sup>51</sup> of the type of radiation. The quality factor is used because some types of radiation (such as exposure to alpha particles) are more biologically damaging than others (such as beta and gamma radiation) (NRC, 2021a; USEPA, 2022). The NRC estimates an exposure of 1 (one) mrem is equivalent to the following activities:

- a. 3 days of living in Atlanta
- b. 2 days of living in Denver
- c. 1 year of watching television (~4 hours/day) (on average)
- d. 1 year of wearing a watch with a luminous dial
- e. 1 coast-to-coast airline flight
- f. 1 (one) year living near a normally operating nuclear power plant<sup>52</sup>

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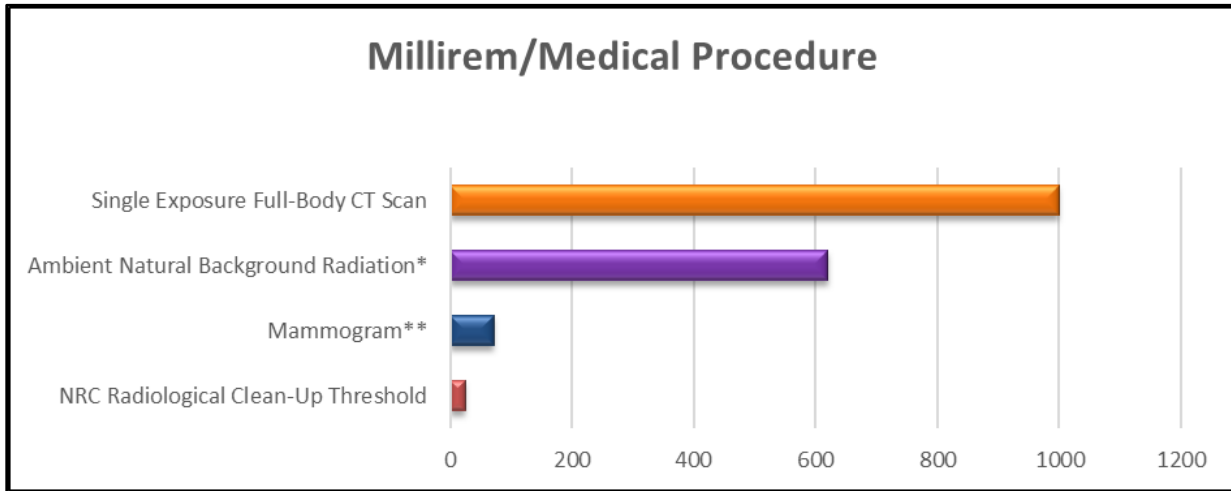
<sup>50</sup> The 1990 revisions to the National Contingency Plan and USEPA guidance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) for cleanups and remedial actions under the Superfund program, is 104 to 106 excess lifetime cancer risk from all radiological and non-radiological carcinogens, which equates to approximately 15 mrem. (USEPA, 2000)

<sup>51</sup> The quality factor is the factor by which the absorbed dose (rad or gray) is to be multiplied to obtain a quantity that expresses, on a common scale for all ionizing radiation, the biological damage (rem or sievert) to an exposed individual. (NRC, 2021a)

<sup>52</sup> This comparison differs from the 25 mrem remediation threshold. Someone living near a normally operating nuclear power plant for one year will have lower radioactive exposure than someone residing on and/or regularly eating/drinking resources from a site that formerly housed an operating nuclear power plant for 40-60 years.

Further, the NRC identifies specific medical procedures as providing significantly higher levels of radiation than the exposures listed above relative to baseline day-to-day living (see Figure 5-4).

**Figure 5-4. Radiation Doses in our Daily Lives**



Source: NRC, 2022c.

\* Ambient Natural Background Radiation includes natural and man-made sources, on average across the U.S., including those from food and nearby industrial processes.

\*\* In the U.S., a typical mammogram requires two images.

Note that these one-time exposures, as illustrated above in Figure 5-4, are related to discrete events that may happen occasionally during an individual’s life, whereas the “resident farmer scenario” would relate to a person living on one site, drinking the local water, and eating food grown on the site (24/7). That individual is likely hard to model so these doses are provided to reflect what an individual may face from a one-time medical procedure, compared to the 1 mrem threshold that NRC has estimated as equivalent to living next to an operating nuclear power plant.

Finally, the NRC defines “residual radioactivity” as any radioactivity remaining in structures, material, soils, groundwater, or other media at a site that is directly resulting from activities under the licensee’s control. The NRC includes any radioactivity related to licensed and unlicensed sources used by the licensee but excludes any naturally occurring background radiation (NRC, 2021b).

**Site Specific Analyses**

The NRC requires a decommissioning site to remediate to an unrestricted dose criterion of 25 mrem per year (total) on a generic basis without any site-specific analysis, because that threshold has been found to be safe, regardless of the number of other sources of nuclides. The NRC further suggests that ALARA must be evaluated based on a site-specific cost-benefit analysis, and has found that, in almost all instances, removal of soil and structures to the pre-existing background radiological levels is “generally not cost-effective” (NRC, 1997a).

The NRC notes that sites meeting the 25 mrem per year threshold can be released for unrestricted use and their Part 50 License is terminated. While the agency has additional requirements that could apply to “restricted use” of a site once its license is terminated, that almost

exclusively applies to industrial sites that could continue operating under industrial zoning due to site conditions before and after the license termination.

The decommissioning of PG&E's DCPD involves dismantling and removing the plant's structures from a previously undeveloped stretch of the Central California Coast, and removing radioactive and chemical contamination from the soils and groundwater to levels at which the site can be released for unrestricted use (NRC, 1996). Pursuant to NRC rules, PG&E submitted its Post-Shutdown Decommissioning Activities Report (PSDAR) in December 2019, including a site-specific decommissioning cost estimate and an Irradiated Fuel Management Plan (NRC, 2019a, 2019b, 2020b, 2022a). In October 2021, PG&E notified the NRC of changes to its PSDAR related to the retainment of the Intake Cove and structures associated with it, and modifications to its strategy for transporting radioactive and other waste from the site (PG&E, 2021f).<sup>53</sup> PG&E will be required to submit a license termination plan to demonstrate compliance with federal remediation thresholds prior to its DCPD Part 50 license being terminated by the NRC (NRC, 2021c). The NRC will only approve PG&E's license termination plan if PG&E can prove it will meet the Federal remediation threshold of 25 mrem per year or ALARA, which sets a goal of attaining a remediation level below the Federal requirement, as described above.

**Background on 25 mrem threshold.** The NRC based its threshold of 25 mrem per year for a site to be released for unrestricted use on studies conducted by the International Commission on Radiation Protection (ICRP) and the National Council on Radiation Protection and Measurements (NCRP). Both agencies established a dose limit of 100 mrem per year as the publicly acceptable level for radioactive exposure other than medical procedures. The ICRP and NCRP also established a cost-based evaluation measure to determine whether a site could achieve additional dose reduction(s).

The NRC's regulations adopting the 25 mrem per year threshold state that it provides "a sufficient and ample margin of safety in protection of public health" when considering that most members of the public – even those living near a decommissioning facility – are unlikely to experience a dose of 100 mrem per year above background radiation (NRC, 1997a).

In a staff document answering questions about the NRC's threshold for license termination, the NRC explained that the 25 mrem per year threshold was adopted because it protects the public from significant dosages related to licensee's operations and allows for safe access to a site once a Part 50 operating license is terminated (NRC, 2000a).<sup>54</sup> Separately, in 62 Fed. Reg. No. 139 (July 21, 1997) the NRC cited several international and federal agencies, including the ICRP and NCRP, to find "setting a source constraint of 25-33 percent of the annual dose limit of 1 mSV/y (100 mrem/y) is adequate and a 15 mrem/y dose criterion is overly conservative (NRC, 1997a)." NRC also explained that its threshold differs from USEPA's CERCLA requirement of 15 mrem per year because it is based on the residual radium levels, while the USEPA's radiation dose limit considers

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<sup>53</sup> PG&E committed to providing the NRC with an updated PSDAR within six months of filing each Nuclear Decommissioning Cost Triennial Proceeding (NDCTP) with the California Public Utilities Commission, but it has not yet filed an updated PSDAR with the NRC since the December 2021 filing of Application 21-12-007. (PG&E, 2021f)

<sup>54</sup> NUREG-1628 at 37-38. "At the license-termination stage (towards the end of the decommissioning process), the Commission must consider (1) the licensee's plan for assuring that adequate funds will be available for final site release, (2) the radiation-release criteria for license termination, and (3) the adequacy of the plans for the final survey that is required to verify that the release criteria have been met." (NRC, 2000a)



additional contaminants that would affect the acceptable risk to the public assuming a 30-year lifetime exposure from the site, including Cesium-137, Americium-241, Cobalt-60, Iodine, Plutonium, Thorium, and Technecium-99 (USEPA, 2021). Further, the NRC's remediation threshold is based on the exposure an individual living and working on the site all day, every day, for up to 30 years would face if that individual moved onto the site shortly after decommissioning is completed (NRC, 2002).<sup>55</sup> While USEPA requires a more stringent threshold under 40 CFR 190 and 191, its 15 mrem per year requirement adopted under CERCLA remains within both agencies' range of 15-25 mrem per year that is "generally consistent with the risk levels permitted in the performance objectives for... spent fuel and high level waste (NRC, 1997a)."<sup>56</sup>

**As Low As Reasonably Achievable (ALARA).** 10 CFR § 20.1003 defines "ALARA" as "making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest." The NRC requires a cost/benefit analysis to be conducted to evaluate the level of remediation to occur at each site, based on site-specific classifications such as cultural, traffic, or air quality impacts associated with incremental site remediation efforts. The NRC has specifically stated that while returning a site to preexisting background conditions is optimal, that threshold may not be reasonable because it "may result in a net detriment or ... [the] cost cannot be justified" (NRC, 1997a).

The NRC's Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities (GEIS) describes the impacts and costs associated with reducing dose criteria to the 25 mrem per year and ALARA threshold (NRC, 1997b). Within it, the NRC suggests that \$2,000/person-rem be used as the value of considering the costs and/or benefits of regulatory alternatives that may differ from the Federal threshold for terminating a license for a site. The GEIS also notes that site-specific analyses are necessary to fully evaluate the costs of remediation to the ALARA threshold or to confirm that the site meets the Federal remediation threshold of 25 mrem per year, because the costs associated with remediating a site for unrestricted use can be quite high (NRC, 1997b). Determination of remediation levels that are ALARA must also consider detriments associated with achieving a cleaner threshold, such as deaths from potential transportation accidents that could result from

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<sup>55</sup> NUREG-0586, states "the scenario used to represent the maximally exposed individual is that of a resident farmer. The assumptions used for this scenario are prudently conservative and tend to overestimate the potential doses." (NRC, 2002)

<sup>56</sup> Footnote 2, p. 39061, notes that "The risks are estimated assuming a risk coefficient of  $5 \times 10^{-4}$  per rem and a 30-year lifetime exposure that is used by USEPA in estimating risk from contaminated sites based on the assumption that it is unlikely that an individual will continue to live or work in the same area for more than 30 years. Such an estimate is seen as providing a conservative estimate of potential risk because land use patterns are generally such that persons living at or near a site will not continuously receive the limiting dose, and, for most of the facilities covered by this rule, the TEDE is controlled by relatively short-lived nuclides of half-lives of 30 years or less for which the effect of radioactive decay will, over time, reduce the risk significantly (e.g., at reactors where much of the contamination is from Co-60) with a half-life of 5.3 years." (NRC, 1997a)

a higher amount of decontamination and waste disposal, and adverse impacts to environmentally or culturally sensitive resources (NRC, 2000a).

**Radioactive Doses Compared.** For the DCPD site, PG&E proposes to use the “resident farmer” scenario for cleanup, which, as described in Section 1.2.1 above, assumes that an individual is residing on the site after it is released for unrestricted use and spends every day (365 days/year, 24 hours/day) living and working on the site, eating food raised on the site, and drinking groundwater from the site (NRC, 2020a; 1997a).<sup>57</sup> According to the NRC, the assumptions used to analyze the “resident farmer” scenario are “‘prudently conservative’ and tend to overestimate the potential doses (NRC, 2000a).” The NRC also estimates that the 25 mrem per year dose associated with releasing a site for unrestricted use can be compared to the background dose of 300 mrem per year that an average person in the United States is anticipated to experience from naturally existing radiation (NRC, 2000a; 2021b).

Federal regulations suggest individuals at a decommissioned site “will actually be exposed to doses substantially below the [25 mrem per year] constraint level because of ALARA considerations and the nature of the cleanup process itself (NRC, 1997a).” Two nuclear plants in California – Rancho Seco near Sacramento and Humboldt Bay Power Plant near Eureka – had their operating licenses terminated by the NRC after reducing dosage levels to well below 25 mrem per year through site decommissioning processes, including the removal of spent nuclear fuel into a specific, independently licensed site separately regulated under an NRC Part 72 license (i.e., ISFSI), and the otherwise full removal of radioactive soils and materials (NRC, 2022b).<sup>58</sup>

**The State’s Role in Modifying Cleanup Standards.** There have been several instances where a state government body has established requirements for a more stringent remediation threshold, due to some site-specific negotiation that found the benefits of a more thorough remediation outweighed the costs associated with the additional work to meet a more stringent clean-up requirement. In each instance the licensee agreed to the more stringent threshold voluntarily or was required to do so due to other legal issues related to the decommissioning site (Maine State Legislature, 2000; Cornell Law School, 2018; Massachusetts Department of Public Health, 2022). In most instances these negotiations occurred when the plant’s operating license was proposed to be transferred from the operating utility to an unregulated third party for the purposes of decommissioning.

As mentioned, several states (including Maine, Massachusetts, and New York) have required specific decommissioning sites to remediate to a level of 10 mrem per year or less above ambient

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<sup>57</sup> Federal Register Vol. 62, No. 139, Monday July 21, 1997 at 39063. “The principal limiting scenarios include: (a) Full time residence and farming at a decommissioned site, (b) exposure while working in a decommissioned building, and (c) renovation of a newly decommissioned building. These principal limiting exposure scenarios are intended to overestimate dose and also tend to be somewhat mutually exclusive (i.e., a person living near a decommissioned nuclear facility would only receive a dose near the constraint level if their living pattern includes full-time residency and farming at the site). This living pattern would make it difficult for the member of this critical group to also be a member of the critical group from other licensed or decommissioned sources.” (NRC, 1997a)

<sup>58</sup> Section 72 licenses govern the requirements, procedures, and criteria for the transfer and storage of greater-than class C nuclear waste (such as the reactor structures) and spent nuclear fuel into an independent spent fuel storage installation. (NRC, 2022b)

radiation levels. Those state-established constraints may or may not result in a remediation target below the federal 25 mrem per year threshold if the background radiation<sup>59</sup> at nearby sites is already high due to natural reasons such as native soil or groundwater concentration of radioactive materials (uranium, thorium, and radium) (Justia.com, 2023a). For example, a Maine Department of Environmental Health Scientist told a select Legislative committee focused on the closure of the Maine Yankee Nuclear Plant that the radiological remediation standards are somewhat arbitrary and there was no significant risk difference between the 10 mrem threshold Maine Yankee agreed to and the NRC's 25 mrem per year standard (Maine State Legislature, 1998). To reiterate, the DCPP Part 50 license will not be terminated by the NRC until the licensee(s) can prove the 25 mrem per year or ALARA requirement is met.

A California state agency (for example, the California Coastal Commission, California State Lands Commission, or California Public Utilities Commission) could adopt requirements that PG&E meet a remediation threshold that is less than 25 mrem per year, similar to those adopted in Maine, Massachusetts, and New York. As discussed above, these more stringent thresholds have typically been adopted when a site is being transferred from the utility operator to an unregulated third party that purchases the facility to complete decommissioning, which would require a separate approval process than the current EIR process underway at the County of San Luis Obispo. The agreement for the more stringent thresholds typically requires a negotiation between the permitting agency (or agencies) and the project applicant, which could result in compromises related to other project impacts, such as cultural or environmental resource preservation or traffic and air quality impacts.

### 5.3.6.2 Rationale for Elimination

As discussed, the NRC's 25 mrem per year remediation requirement is the federally mandated threshold, based on consideration of an on-site, 24/7, 365 days/year resident. While the closest residence to the DCPP site is currently approximately 7 miles away, at some point in the future there may be increased public access and a reuse of the site that involves on-site or nearby residences or frequent visitors that could receive a higher, or at least more consistent, dosage of radiation than those individuals currently residing near the operating plant. For these reasons, some stakeholders have encouraged State policy makers to consider adopting a more stringent remediation requirement (less than 25 mrem per year) to ensure that there are a wide range of reuse options for the DCPP site. To file for termination of its Part 50 licensee, PG&E must conduct a full cost-benefit analysis to determine the remediation threshold that is ALARA based on the activities necessary to decommission the DCPP site. This could include a more stringent remediation threshold (less than 25 mrem per year), if such a requirement is adopted by another state agency during the decommissioning process.

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<sup>59</sup> 10 CFR §20.1003 defines background regulation as "radiation from cosmic sources; naturally occurring radioactive material, including radon (except as a decay product of source or special nuclear material); and global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl that contribute to background radiation and are not under the control of the licensee." The Federal law specifically notes that background radiation does not include radiation associated with activities controlled by the licensee(s) of the decommissioning site.

Given the need for a State action that has not been undertaken and is therefore speculative, the stringency of federal regulations, the NRC’s requirements for the site to comply with ALARA, PG&Es proposal to use the resident farmer scenario for site clean-up, the safe closure and remediation of plants across the country, and the increased impacts associated with removal of additional material from the DCPD site to reach a more stringent threshold, this alternative was eliminated from further consideration.

## 5.4 Alternatives Evaluated in this EIR

Eight alternatives are evaluated in this section, including two versions of the No Project Alternative. The two No Project Alternatives include one leaving the site in the NRC’s SAFSTOR condition delaying decommissioning (see Section 5.4.1) and the other where permit approvals required to initiate the Proposed Project are not approved by the CSLC (see Section 5.4.2). Two alternatives consider minimizing the amount of infrastructure removed throughout the DCPD site (see Section 5.4.3) to the other extreme of complete removal of everything within the CSLC jurisdiction per the existing lease requirements (see Section 5.4.8). Two alternatives relate to restoration of the Firing Range and the level of earthwork and on-site cut/fill that would be needed (see Sections 5.4.4 and 5.4.5). Additional alternatives eliminate transport of waste by rail (see Section 5.4.6) and assess a delayed decommissioning scenario (see Section 5.4.7).

The CSLC Full Removal Alternative (see Section 5.4.8) is examined in greater detail than the other alternatives because it represents the existing CSLC lease requirements (PRC 9347.1) and therefore the fullest exercise of the CSLC’s discretion regarding the end-state disposition of infrastructure within the CSLC’s jurisdiction. As noted in Section 1, *Introduction*, the CSLC is a responsible agency in the CEQA process and is working with the County on the evaluation of the Proposed Project. The other alternatives are evaluated at a lesser level of detail, but with sufficient information to allow meaningful evaluation, analysis, and comparison to the Proposed Project, consistent with CEQA’s requirements (State CEQA Guidelines, §15126.6, subd. (d)).

### 5.4.1 Alternative 1: SAFSTOR Alternative

#### 5.4.1.1 Alternative 1 Description

Pursuant to State CEQA Guidelines section 15126.6(e), the purpose of describing and analyzing a “no project” alternative is to provide decision makers with comparative information regarding the impacts of approving a project versus not approving a project. The “no project” alternative considers existing environmental conditions as well as what would reasonably be expected to occur in the foreseeable future if the permits and leases associated with the Proposed Project are not approved. Under the SAFSTOR Alternative, DCPD would be

**Figure 5-5. Rancho Seco Nuclear Generation Station SAFSTOR Condition**



placed in a safe, stable storage condition (referred to as SAFSTOR), and decommissioning of the DCPP and associated use of the railyards would be completed within 60 years as required under NRC regulations and associated guidance.

Under SAFSTOR mode, after the DCPP is shut down and defueled, the facility would be placed in a safe, stable condition and maintained in that state. The facility would be decontaminated and dismantled at the end of the SAFSTOR period. During SAFSTOR, the facility would be left intact, or may be partially dismantled, but the SNF would be removed from the reactor vessels, and radioactive liquids drained from systems and components and then processed. SNF would continue to be transferred from the Spent Fuel Pools to the ISFSI under this alternative (see Section 1.2.2, *ISFSI Approval and Cask Design*).

As examples of SAFSTOR, this approach to decommissioning was implemented at the Rancho Seco Nuclear Generating Station (see Figure 5-5) and the Humboldt Bay Power Plant. Rancho Seco ceased operating in 1989. However, incremental decommissioning did not begin until 1999. In addition, the Humboldt Bay Power Plant nuclear unit ceased operating in 1976 and decommissioning did not begin until 2009. Radioactive decay would occur during the SAFSTOR period, thereby reducing the quantity of contamination and radioactivity that must be disposed of during decontamination and dismantlement. This alternative would result in delaying the decommissioning activities, potentially by decades, but decommissioning activities as described for the Proposed Project would ultimately occur (San Luis Obispo, 2021) within the 60-year period specified by NRC regulations.

#### **5.4.1.2 Environmental Impact Analysis**

The impacts of the SAFSTOR Alternative compared to the Proposed Project are described below.

##### ***Aesthetics***

Under the SAFSTOR Alternative, the location and types of decommissioning activities that would occur at the DCPP and railyard sites would be the same as described for the Proposed Project. Potential impacts to a scenic vista (Impact AES-1) and impacts to the visual character or quality of the sites (Impact AES-3) would remain less than significant, and damage to sensitive scenic resources (Impact AES-2) would remain no impact. Impacts from nighttime lighting at railyard sites (Impact AES-4) would be expected to be the same as the Proposed Project (i.e., Class II), and would require mitigation to control any temporary or permanent lighting.

##### ***Air Quality***

Criteria air pollutant emissions from this alternative would likely be lower than those from the Proposed Project due to improved fuel standards for vehicles and off-road heavy-duty equipment over time. While the majority of the SAFSTOR alternative would be similar to the Proposed Project, since it would happen decades in the future, it can be assumed that the vehicles and equipment used would be technologically improved and have less emissions. Additionally, due to radioactive decay, there may be slightly less radioactive waste to dispose of with the SAFSTOR Alternative. This could potentially decrease transportation emissions, including emissions associated with railroad operations, as some waste would not need to travel as far for hazardous disposal, although all would still be transported out of state per Executive Order D-62-02.

Like the Proposed Project, the unmitigated emissions would be significant, and MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) would be required to reduce ozone precursor and PM10 emissions (Impacts AQ-2 and AQ-3) to levels that would be less than significant.

The SAFSTOR Alternative, like the Proposed Project would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

### ***Biological Resources – Terrestrial***

The SAFSTOR Alternative would only delay decommissioning activities, but ultimately the same activities described for the Proposed Project would occur. While the exact vegetation communities, special-status species, sensitive habitat designations, and other terrestrial biological resources may change at the DCPD site and railyards during the up to 60-year delay that could occur under this alternative, the types of impacts (Impacts BIO-1 through BIO-9) would remain the same as those described under the Proposed Project. It is assumed that any local policies or ordinances protecting terrestrial biological resources or any broader conservation plans (Impacts BIO-10 and BIO-11) would be similar to those currently applicable to the Proposed Project. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under this alternative.

### ***Biological Resources – Marine***

This alternative would result in delaying the decommissioning activities, potentially by decades, but decommissioning activities as described for the Proposed Project would ultimately occur within the 60-year period specified by NRC regulations. Therefore, impacts to marine biological resources at the DCPD site from this alternative would be similar to those described for Impacts MBIO-1 through MBIO-5 from activities that were identified to have potential marine biological impacts (e.g., Waste Transportation, Discharge Structure Removal and Restoration, Water Management, Intake Structure Closure, and Marina Reuse). However, the delay in decommissioning by decades may provide an opportunity to further study and determine successful relocation methods for black abalone thereby reducing the uncertainty associated with relocation of black abalone. As such, it is possible that the time delay may better ensure the proposed mitigation measures (MM MBIO-4 and MBIO-5) reduce impacts potentially to a less-than-significant level, although this is speculative at this time.

### ***Cultural Resources – Archaeology***

The SAFSTOR Alternative would only delay decommissioning activities, but ultimately decommissioning activities as described for the Proposed Project would occur. This alternative would require the same level of ground disturbance as the Proposed Project, resulting in the same potential to encounter unknown buried cultural resources at the DCPD site that could be evaluated as significant; and the same potential to affect a known cultural resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area. Like the Proposed Project, no impacts would occur at the railyard sites.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project*

Archaeological Monitors), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*). These measures would lessen the overall impact, but not to a less-than-significant level. Therefore, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable like the Proposed Project.

### ***Cultural Resources – Built Environment***

The DCPD site was evaluated as a whole, as well as individual buildings 50 years or older (see Appendix F), and it was found that neither the DCPD site nor individual buildings were eligible as historic-age resources. As such, even if additional facilities were to be over 50 years old at the time of removal under the SAFSTOR Alternative, it would not change the eligibility of DCPD. Therefore, with no designated or eligible historic-age resources within the Proposed Project sites (DCPD and railyards), the SAFSTOR alternative would result in no impacts to built environment resources (Impact CUL-1), which is the same as the Proposed Project.

### ***Cultural Resources – Tribal Cultural Resources***

The SAFSTOR Alternative would only delay decommissioning activities, but ultimately decommissioning activities as described for the Proposed Project would occur. This alternative would require the same level of ground disturbance as the Proposed Project, resulting in the same potential to encounter unknown buried cultural resources at the DCPD site that could be considered Tribal Cultural Resources and could be evaluated as significant; and the same potential to affect a known Tribal Cultural Resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area. Like the Proposed Project, no impacts would occur at the railyard sites.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Therefore, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable like the Proposed Project.

### ***Energy***

The SAFSTOR Alternative, like the Proposed Project, would have less-than-significant impacts related to wasteful, inefficient, or unnecessary consumption of energy sources (Impact EN-1), and would have less-than-significant impacts regarding conflict with State or local plans for renewable energy and energy efficiency (Impact EN-2). Diesel fuel would still be consumed when decommissioning takes place, but currently there are no alternative methods for disposing decommissioning debris that would consume less energy. The SAFSTOR Alternative would likely have lower impacts to energy usage, as equipment and transportation would likely be more efficient in the future when the site is decommissioned.

### ***Geology, Soils, Paleontological Resources, and Coastal Processes***

Impacts to geology and soils under the SAFSTOR Alternative would not differ from the Proposed Project (Impact GEO-1). MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*) and MM GEO-2 (*Seismic Hazard and Coastal Processes Assessment of Discharge Structure*) identified for the Proposed Project would reduce impacts at the DCPP site from this alternative to less than significant. Like the Proposed Project, impacts at the railyards would be less than significant.

Impacts associated with erosion under this alternative would be greater compared to the Proposed Project (Impact GEO-2), as DCPP facilities, drains, and slopes would remain in place for a longer period of time requiring greater oversight and maintenance. Implementation of the site-specific Stormwater Pollution Prevention Plan (SWPPP) and Construction General Permit (CGP) (ACs BIO-3 and WQ-1) as part of the Project would help to control erosion, although additional erosion control measures for maintenance and repair at the DCPP site may be required due to the prolonged decommissioning schedule. MM HWQ-1 (*Prepare and Implement Drainage Plans*) and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) would ensure impacts are reduced to a less-than-significant level. Like the Proposed Project, impacts at the railyards would be less than significant.

Impacts to paleontological resources with this alternative would not differ from the Proposed Project (Impact GEO-3) and impacts would be less than significant. Impacts related to having soils incapable of adequately supporting the use of septic tanks would not differ from the Proposed Project and impacts would be less than significant (Impact GEO-4).

Although decommissioning would be delayed under the SAFSTOR Alternative, decommissioning activities would occur as described for the Proposed Project within the 60-year period specified by NRC regulations. As such, activities within the Intake/Discharge Areas and Marina would eventually occur within 60 years. Future sea level rise within this period may expose workers in the coastal area at the DCPP site to hazards such as larger wave heights and blufftop erosion. As noted in Table 7-1, Projected Sea-Level Rise (in Feet) for Port San Luis, the extreme risk aversion (conservative) projected sea level in 2080 is estimated to be 6.4 feet, putting the Discharge Structure, Intake Structure, and Marina areas at the greatest risk of coastal flooding from wave runup. Per the CCC CDP A-3-SLO-04-035 for the existing ISFSI, annual surveys of the shoreline nearest the ISFSI transport road and Soil Disposal Site #2 are to be conducted through the life of the ISFSI by a licensed Surveyor or Civil Engineer (CCC, 2004). A site stability evaluation report must be prepared and submitted by a California Certified Engineering Geologist based upon an on-site evaluation that indicates that the bluff setback is adequate to allow for bluff erosion over the 75-year period (CCC, 2004). As such, impacts related to coastal processes would be less than significant. Impacts related to coastal processes for the SMVR-SB or PBR sites would be the same as the Proposed Project as these sites are located in more inland areas.

### ***Greenhouse Gas Emissions***

As noted for the air quality analysis, GHG emissions from this alternative would likely be lower than those from the Proposed Project due to improved fuel standards for vehicles and off-road heavy-duty equipment, as well as technological improvements leading to lower emissions.



Additionally, due to radioactive decay, there may be slightly less radioactive waste to dispose of with the SAFSTOR Alternative, which may decrease transportation emissions as some waste would not need to travel as far for hazardous disposal.

Like the Proposed Project, the unmitigated emissions would be significant, and MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*) would be required to reduce the effects of GHG emissions to a level that would not result in a significant impact on the environment (Impact GHG-1). The SAFSTOR Alternative, like the Proposed Project would not conflict with GHG emission reduction plans, policies, or regulations (Impact GHG-2).

### ***Hazardous and Radiological Materials***

Impacts from non-radiological hazardous waste under Alternative 1 would be similar to those under the Proposed Project (Impacts HAZ-1 through HAZ-6), but slightly less due to the reduced volume of waste generated limiting exposure. With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/Certification*) and MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), and MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*) and MM HWQ-2 (*Clean Marina Provisions*), non-radiological hazardous material impacts under this alternative would be less than significant. The potential to trigger a wildland fire (Impact HAZ-7) would be reduced compared to the Proposed Project as there would be less potential for construction-related accidents and less hot work activities. As with the Proposed Project, MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) would reduce the impact to less than significant.

A delay of up to 60 years would allow for greater radiological decay thereby providing for a slight reduction in potential radiological exposure during decommissioning activities; however, exposure is highly regulated by the NRC such that impacts would be identical to the Proposed Project. At the end of decommissioning, the applicable NRC and USEPA standards relative to radiological materials, and radiation exposures to workers and the public through all media, would be identical to the Proposed Project. Therefore, radiological impacts under this alternative (Impacts HAZ-8 through HAZ-12) would be like the Proposed Project and less than significant.

### ***Hydrology and Water Quality***

Decommissioning activities as described for the Proposed Project would ultimately occur under the SAFSTOR Alternative. Therefore, impacts related to water quality, water supply, soil erosion and sedimentation, and flood inundation would be the same as the Proposed Project, requiring the same soil and water management plans and mitigation measures to reduce impacts to less than significant.

### ***Land Use and Planning***

Decommissioning activities under the SAFSTOR Alternative would be identical to the Proposed Project. While the exact land uses located along the transport routes may change during the 60-year delay under this alternative, the types of impacts that could occur to public and private land uses would remain the same. Transport activities under the SAFSTOR Alternative could temporarily limit public access along the proposed routes in a manner that is similar to the Proposed

Project. As discussed for the Proposed Project, MM TRA-1 (*Truck Transportation Outside of Peak Hours*), TRA-2 (*Specialty Heavy Haul Transport Vehicle Transportation Management Plan*), TRA-3 (*Decommissioning Liaison*), TRA-4 (*Advance Notification of Decommissioning*), TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle Transportation Management Plan (TMP), and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation.

Under the SAFSTOR Alternative, activities at the DCPP and railyards would remain the same, and activities would not extend into agricultural lands. This alternative would not affect agricultural lands or convert surrounding agricultural uses.

### **Noise**

If partial dismantling occurs during the SAFSTOR period, temporary construction noise and vibration levels for onshore decommissioning at the DCPP site and railyard sites would be identical or less than those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project. Offshore activities associated with the decommissioning are not expected to occur during the SAFSTOR period, thereby avoiding temporary noise associated with those decommissioning activities including underwater noise (see *Biological Resources – Marine*). However, ultimately full decommissioning would occur. Over the next 60 years more development in the surrounding communities of the DCPP site and railyard sites may occur such that more sensitive receptors could be affected. As such, noise and vibration impacts are expected to be the same or possibly greater than the Proposed Project under this alternative.

### **Public Services and Utilities**

Although the SAFSTOR Alternative would delay decommissioning activities, decommissioning activities as described for the Proposed Project would ultimately occur. Therefore, this alternative would require the same number of workers and the same need for fire and emergency response. Impacts relating to the relocation or construction of utility systems, water resources, wastewater capacity, solid waste generation, and solid waste regulations would remain less than significant. Impacts relating to emergency services would be reduced to less than significant with MMs PSU-1 (*Facility Plan Updating, Tracking, and Reporting*), PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), TRA-1 (*Truck Transportation Outside of Peak Hours*), and TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*). Impacts of MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) would remain the same as the Proposed Project.

### **Recreation and Public Access**

Under the SAFSTOR Alternative, activities outside of the Project site that could temporarily interfere with recreational access and safety, such as trucking and equipment transport, would not occur, unless partial dismantling occurs, for the next approximately 60 years. However, at

the end of the SAFSTOR period (approximately 60 years), decommissioning activities would ultimately occur that could have the same temporary impacts to public access and recreation as the Proposed Project if Avila Beach Drive is still used as the main route for trucking. However, over the next 60 years, there could be a higher population of residents affected by road and lane closures associated with decommissioning. This could result in additional access impacts associated with decommissioning under this alternative, compared to those discussed in Impact REC-1. However, with implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and MM TRA-7 (*Coordination with Harbor Masters*), impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures (Impact REC-1); access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4), which is the same as the Proposed Project. Impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3), which is also the same as the Proposed Project.

### **Transportation**

**Ground Transportation.** Under this alternative, the DCP facility would remain largely intact during the period of SAFSTOR inactivity. There would be a reduced amount of material needed for transport to and from the site; thus, fewer truck trips would be required. Additionally, the decrease in employees would result in a reduction in vehicle miles traveled (VMT) compared to the Proposed Project, and no impact would occur (Impact TRA-1).

Although this alternative would delay decommissioning activities, decommissioning of the DCP would ultimately occur. Impacts related to incompatible uses (Impact TRA-2) would be the same as the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*). Access to the site and reduction of the existing Owner Controlled Area in Phase 2 would eventually occur and include the construction of the blufftop road. Therefore, impacts related to inadequate emergency access would be the same as the Proposed Project (Impact TRA-3) and MM TRA-1, MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*) and MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*) would reduce impacts to less than significant.

**Marine Transportation.** Similar to the Proposed Project, this alternative would also require barge trips for the export of waste (up to 28 round trips, where each tug pulls two barges for a total of 55 barges, over a four-year timeframe during Period 1B [2030-2033]); the transport of gravel from the Port of Long Beach to fill the Discharge Structure cofferdam (up to 15 round trips during Period 1A [2024-2029]); and the transport of quarry rock sourced from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three round trips during Period 1B [2030-2033]). The number of barge trips would be

the same under both the Proposed Project and this alternative. Therefore, under this alternative, offshore marine transportation impacts related to marine vessel safety would be the same as the Proposed Project and would be less than significant with implementation of MM TRA-7 (*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). Like the Proposed Project, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

### **Wildfire**

Under this alternative, decommissioning activities would be identical to the Proposed Project. The same number of workers and truck trips would eventually be needed; thus, impacts to emergency response and evacuation (Impact WF-1) would require mitigation to prevent impairing emergency response and access. This alternative would have less-than-significant impacts on exacerbating wildfire risks due to physical factors (Impact WF-2) and infrastructure (Impact WF-3), as the physical conditions of the DCPD site and railyards are assumed to remain similar to the Proposed Project in the next 60 years. The SAFSTOR Alternative would not expose people or structures to substantial downslope or post-fire slope instability hazards, as the topography of the DCPD site and railyard would not substantially change within the next 60 years. Impact WF-4 would remain less than significant.

## **5.4.2 Alternative 2: CSLC No Project Alternative**

### **5.4.2.1 Alternative 2 Description**

Under the CSLC No Project Alternative, a new or amended CSLC lease for the Proposed Project would not be approved and the existing CSLC lease PRC 9347.1 for the facilities within the CSLC jurisdiction (see Figure 1-4) would expire on August 26, 2025, simultaneous to the expiration of the NRC license for the Unit 2 reactor. The Discharge Structure, Intake Structure, Breakwaters, Marina (includes the boat dock and rip rap along the shore of the Marina), storage facilities, office facilities, intake electrical room, intake maintenance shop, equipment storage pad, and spare tri-bar storage facilities, which lie within the CSLC jurisdiction, would not be dismantled and would remain in their current position and configuration. This alternative assumes the NRC radiological contamination threshold is met in these areas. PG&E would retain responsibility for the structures under a new agreement with the CSLC. Other onshore decommissioning activities outside of the CSLC jurisdiction would continue as described for the Proposed Project under this alternative. These other onshore decommissioning activities are allowed under the operating license for reactor Units 1 and 2 granted by the NRC.

### **5.4.2.2 Environmental Impact Analysis**

The impacts of the CSLC No Project Alternative compared to the Proposed Project are described below.

#### ***Aesthetics***

As the location and types of activities occurring under the CSLC No Project Alternative would be the same as the Proposed Project, potential impacts at the DCPD site and railyards to a scenic vista (Impact AES-1) would remain less than significant, and potential impacts to a scenic resource

(Impact AES-2) would not occur. For Impact AES-3, the visual quality of the DCPD site would improve from existing conditions, but to a lesser extent than the Proposed Project, as structures within the CSLC jurisdiction would remain intact. Impacts from nighttime lighting at railyard sites (Impact AES-4) would be the same as the Proposed Project (i.e., Class II), and would require mitigation to control any temporary or permanent lighting. This alternative would possibly have a shorter duration of waste transport activities due to the removal of less structures within the DCPD, but the need for mitigation to address nighttime lighting impacts would remain the same as the Proposed Project.

### ***Air Quality***

Criteria air pollutant emissions from this alternative would be lower than those from the Proposed Project as there would be fewer structures demolished and less material hauled to and from the DCPD site. With implementation of MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) the CSLC No Project Alternative would have less-than-significant impacts related to net increases of criteria air pollutants for which the area is in non-attainment (Impact AQ-2) and impacts on sensitive receptors (Impact AQ-3). This alternative, like the Proposed Project would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

### ***Biological Resources – Terrestrial***

Under the CSLC No Project Alternative, impacts associated with the permanent and temporary loss of native vegetation (Impact BIO-1) and Environmentally Sensitive Habitat Areas (ESHAs) (Impact BIO-7) that supports ocean bluff milk-vetch, a special-status plant, would be slightly less severe since the Discharge Structure would be left intact and coastal bluff scrub vegetation immediately adjacent to the structure would not be temporarily removed. Impacts to nesting birds (Impact BIO-4) and special-status bats (Impact BIO-6) that could potentially use structures within CSLC jurisdiction for nesting or roosting would also be slightly less severe since these structures would not be removed. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under this alternative.

### ***Biological Resources – Marine***

Under the CSLC No Project Alternative, the Discharge Structure, Intake Structure, Breakwaters, Marina (includes the boat dock and rip rap along the shore of the Marina), storage facility, office facilities, intake electrical room, intake maintenance shop, equipment storage pad, and spare tri-bar storage facilities would not be dismantled and would remain in their current position and configuration. As such, this alternative would have no impacts to marine biological resources and therefore would have fewer impacts compared to the Proposed Project.

### ***Cultural Resources – Archaeology***

The CSLC No Project Alternative decommissioning activities outside of the CSLC jurisdiction would continue as described for the Proposed Project. While ground disturbance under this alternative would decrease, this alternative would require the same level of ground disturbance as the

Proposed Project outside of CSLC jurisdiction, resulting in the same potential in the remaining portion of the Proposed Project site to encounter unknown buried cultural resources at the DCPD site that could be evaluated as significant; and the same potential to affect a known cultural resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area. Like the Proposed Project, no impacts would occur at the railyard sites.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*). These mitigation measures would lessen the overall impact, but not to a less-than-significant level. Therefore, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable, like the Proposed Project. However, impacts under this alternative would be less severe because of the reduced ground disturbance.

#### ***Cultural Resources – Built Environment***

With no designated or eligible historic-age resources within the Proposed Project sites, the CSLC No Project Alternative would result in no impacts to built environment resources (Impact CUL-1), like the Proposed Project.

#### ***Cultural Resources – Tribal Cultural Resources***

The CSLC No Project Alternative decommissioning activities outside of the CSLC jurisdiction would continue as described for the Proposed Project. While ground disturbance under this alternative would decrease, this alternative would require the same level of ground disturbance as the Proposed Project outside of CSLC jurisdiction, resulting in the same potential to encounter unknown buried cultural resources that could be considered Tribal Cultural Resources and could be evaluated as significant; and the same potential to affect a known Tribal Cultural Resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Therefore, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable, like the Proposed Project; although, impacts under this alternative would be less severe because of the reduced ground disturbance.

#### ***Energy***

The energy impacts from this alternative would be lower than the Proposed Project as there would be fewer structures demolished and less material hauled to and from the DCPD site, so

less energy would be consumed to decommission the DCPD site. Like the Proposed Project, impacts would be less than significant for Impact EN-1 and Impact EN-2.

### ***Geology, Soils, Paleontological Resources, and Coastal Processes***

Impacts to geology and soils under the CSLC No Project Alternative would not differ from the Proposed Project (Impact GEO-1). MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*) and MM GEO-2 (*Seismic Hazard and Coastal Processes Assessment of Discharge Structure*) identified for the Proposed Project would reduce impacts to less than significant. Like the Proposed Project, impacts at the railyards would be less than significant.

Impacts associated with erosion under this alternative would be considerably reduced compared to the Proposed Project (Impact GEO-2), as structures and facilities located within the CSLC jurisdiction would remain in place. There would be decreased structure demolition and backfill required under this alternative as well as implementation of the site-specific SWPPP and CGP (ACs BIO-3 and WQ-1), thereby reducing ground disturbance and erosion potential. MM HWQ-1 (*Prepare and Implement Drainage Plans*) and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) would ensure impacts from this alternative are less than significant. Like the Proposed Project, impacts at the railyards would be less than significant.

Impacts to paleontological resources with this alternative would not differ from the Proposed Project (Impact GEO-3) and impacts would be less than significant. Impacts related to having soils incapable of adequately supporting the use of septic tanks would not differ from the Proposed Project and impacts would be less than significant (Impact GEO-4).

This alternative may expose existing structures in the coastal zone to additional tidal action and sea level rise as structures within the CSLC jurisdiction would remain in place. Per the CCC CDP A-3-SLO-04-035 for the existing ISFSI, annual surveys of the shoreline nearest the ISFSI transport road and Soil Disposal Site #2 are to be conducted through the life of the ISFSI by a licensed Surveyor or Civil Engineer (CCC, 2004). A site stability evaluation report must be prepared and submitted by a California Certified Engineering Geologist based upon an on-site evaluation that indicates that the bluff setback is adequate to allow for bluff erosion over the 75-year period (CCC, 2004). As such, impacts related to coastal processes would be less than significant. Because decommissioning under this alternative would not occur in the coastal zone, this alternative would neither impair nearshore sediment properties, characteristics, or processes nor impair coastal wave, current, or circulation patterns. Therefore, this alternative would have fewer impacts to coastal processes compared to the Proposed Project. Impacts related to coastal processes for the SMVR-SB and PBR sites would be the same as the Proposed Project.

### ***Greenhouse Gas Emissions***

The GHG emissions from this alternative would be lower than the Proposed Project as fewer structures would be demolished, and less material hauled to and from the DCPD site. The CSLC No Project Alternative would have less-than-significant impacts related to increases in GHG emissions with implementation of MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*) (Impact GHG-1). Like the Proposed Project, this alternative would not conflict with GHG emissions reductions plans, policies, or regulations (Impact GHG-2).

### ***Hazardous and Radiological Materials***

Impacts from non-radiological hazardous waste under Alternative 2 would be similar to those under the Proposed Project (Impacts HAZ-1 through HAZ-7). However, the volume of waste would be less due to fewer structures requiring dismantling. With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/Certification*) and MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), as well as MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*), MM HWQ-2 (*Clean Marina Provisions*), MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), non-radiological hazardous material impacts under this alternative would be less than significant.

The portions of the Proposed Project that are within CSLC jurisdiction (and which would not be dismantled under Alternative 2) are not expected to contain radiological materials. In addition, at the end of decommissioning, the applicable NRC and USEPA standards relative to radiological materials and radiation exposures to workers and the public through all media, are identical. Therefore, radiological impacts under this alternative (Impacts HAZ-8 through HAZ-12) would be like the Proposed Project and less than significant.

### ***Hydrology and Water Quality***

Under Alternative 2, decommissioning of structures would not occur in the coastal zone; therefore, impacts within the coastal zone would be limited to barge and tugboat use for waste disposal. If the retained structures are improperly or insufficiently maintained, they may degrade over time, potentially impacting water quality. Like the Proposed Project, salinity changes in the Discharge Cove related to brine and wastewater discharges occurring under reduced once-through-cooling (OTC) conditions and eventual elimination of OTC (i.e., shutdown of the Discharge Structure) would continue under this alternative and are less than significant.

Some upland soils are known to be contaminated, and generally the same potential impacts related to degradation of water quality, erosion, sedimentation, and flooding identified for the Proposed Project would be expected. The same soil and water management plans and mitigation measures would be required to reduce impacts to less than significant. With respect to groundwater impacts, freshwater demand would be reduced as less dust suppression and soil compaction is anticipated with the reduced number of structures to be removed, and the impact would continue to be less than significant.

Impacts related to coastal processes for the SMVR-SB and PBR sites would be the same as the Proposed Project as these sites are in more inland areas.

### ***Land Use and Planning***

Onshore decommissioning activities outside of the CSLC jurisdiction would continue as described for the Proposed Project under the CSLC No Project Alternative. Fewer activities would occur offshore, and less waste may be transported along truck and rail routes under this alternative. However, while a reduction in railyard trips would shorten the frequency or overall period of impacts to adjacent land uses, transport activities during Phase 1 and Phase 2 could still disrupt land uses along the proposed truck haul routes and within the central Avila Beach community.



As discussed for the Proposed Project, MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), and MM TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation.

None of the activities under this alternative would extend into adjacent agricultural lands. Similar to the Proposed Project, impacts to agricultural resources would not occur (Impact LUP-2).

### **Noise**

The level of onshore decommissioning activities would be reduced compared to the Proposed Project which may reduce the intensity or duration but would continue to generate temporary construction noise and vibration levels at the DCPD site and railyards identical to those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project.

Offshore activities associated with the decommissioning would not occur, thereby avoiding temporary noise associated with those decommissioning activities, including underwater noise (see *Biological Resources – Marine*).

### **Public Services and Utilities**

This CSLC No Project Alternative would result in fewer structures requiring decommissioning and dismantlement. Therefore, fewer workers and truck trips would be needed to transport the reduced volume of dismantled structures and materials. The reduction of construction trips and vehicles would have fewer impacts to emergency services (Impact PSU-1) than the Proposed Project. Retaining the structures within the CSLC jurisdiction would preclude the release of the Marina for third party reuse. Therefore, modifications to the Intake Structure, construction of public restrooms and Marina area septic system, and construction of the blufftop road segment would not occur. Impacts related to relocating or constructing new utility facilities (Impact PSU-2), use of water resources (Impact PSU-3), and generation of wastewater and solid waste (Impacts PSU-4 and PSU-5) would be less than the Proposed Project. This alternative would continue to comply with all applicable regulations related to solid waste (Impact PSU-6), and impacts would remain less than significant.

### **Recreation and Public Access**

Impacts to public access and recreation under the CSLC No Project Alternative would be reduced compared to the Proposed Project given that this alternative would involve less demolition, structure removal, and offsite export for those facilities located within the CSLC jurisdiction, which would remain in place, reducing truck trips that would temporarily interfere with access to local trails or recreational areas along Avila Beach Drive. Trucking and equipment transport for other onshore decommissioning activities would still occur under the operating license for the reactor units (Units 1 and 2), with potential temporary impacts to public access and recreation.

Like the Proposed Project, with implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordination with Harbormasters*), impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures obstructing upland, shoreline, and water-dependent public access and recreation (Impact REC-1); restricted access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4). Similarly, like the Proposed Project impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3).

### **Transportation**

**Ground Transportation.** More DCPD facilities would remain intact under this alternative compared to the Proposed Project, as structures would remain in the CSLC jurisdiction. Therefore, fewer structures and materials would be removed from the site, reducing the number of truck trips compared to the Proposed Project. This alternative would reduce the number of employees and commutes at the DCPD site and thus would reduce VMT. Therefore, this alternative would generate a similar level of VMT as the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*) (Impact TRA-1). Impacts related to incompatible uses (Impact TRA-2) would be the same as the Proposed Project.

This alternative would not alter emergency access routes. The opening of the site and reduction of the Owner Controlled Area in Phase 2 would eventually occur and include the construction of the blufftop road. Therefore, impacts related to inadequate emergency access would be the same as the Proposed Project (Impact TRA-3) and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*) and MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*) would reduce impacts to less than significant.

**Marine Transportation.** Under this alternative, the export of waste by barge would continue requiring up to 28 round trips (each tug pulls two barges for a total of 55 barges) over a four-year timeframe during Period 1B (2030-2033), like the Proposed Project. Therefore, offshore marine transportation impacts related to marine vessel safety would be like the Proposed Project and would be less than significant with the implementation of MM TRA-7 (*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). However, the transport of gravel by barge from the Port of Long Beach to fill the Discharge Structure cofferdam (up to 15 round trips during Period 1A [2024-2029]) and the transport of quarry rock by barge from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three round trips during Period 1B [2030-2033]) would not be required. Therefore, impacts would be less severe due to the reduction of up to 15 round trips during Period 1A and three round trips during Period 1B. Like the Proposed Project, barge

transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

### **Wildfire**

The CSLC No Project Alternative would result in fewer structures requiring decommissioning and dismantlement. Therefore, fewer truck trips would be needed to transport the reduced volume of dismantled structures and materials. Fewer workers may also be required for this alternative, resulting in fewer worker vehicles. The reduction of construction vehicles and trips would have fewer impacts to an emergency response plan and evacuation plan (Impact WF-1) than the Proposed Project. Given the potential decrease in workers due to the reduced decommissioning activities, wildfire risks (Impacts WF-2 and WF-3) would be less than the Proposed Project. The CSLC No Project Alternative would not expose people or structures to substantial downslope or post-fire slope instability hazards, as the topography of the DCPP site and railyards would not substantially change within the next 60 years. Impact WF-4 would remain less than significant.

## **5.4.3 Alternative 3: Minimum Demolition Alternative**

### **5.4.3.1 Alternative 3 Description**

This alternative minimizes demolition activities by leaving buildings and supporting infrastructure in place to the maximum extent feasible while meeting NRC requirements that regulate decontamination and radiological and chemical remediation. The intent of the Minimum Demolition Alternative would be to substantially reduce the environmental impacts associated with dismantling and off-site transport within the short-term future when compared to the Proposed Project. Decontamination and radiological and chemical remediation would take place to achieve NRC Part 50 operating license termination, but demolition and removal of structures would be kept to a minimum, leaving structures such as the Seawater Reverse Osmosis Facility in place for potential third-party reuse (see Section 8.0, *Potential Site Reuse Concepts (Phase 3)*). Eventual dismantlement and off-site transport *could* take place later. Alternatively, the buildings and supporting infrastructure could be reused by a third party.

### **Background**

10 CFR 50.82 provides guidelines for License Termination, and includes the following:

*(11) The Commission [NRC] shall terminate the license if it determines that—*

- (i) The remaining dismantlement has been performed in accordance with the approved license termination plan, and*
- (ii) The final radiation survey and associated documentation, including an assessment of dose contributions associated with parts released for use before approval of the license termination plan, demonstrate that the facility and site have met the criteria for decommissioning in 10 CFR part 20, subpart E.*

Assuming the property owner elects to retain the current structures and upon clearance by the NRC that the DCPP is in compliance with 10 CFR 20.1402 (radiological criteria for unrestricted

use – text provided below), PG&E would be released from its Part 50 Facility Operating Licenses obligations for on-site structures.

As noted above, leaving the maximum number of existing structures in place would substantially reduce the environmental impacts associated with complete or partial dismantling and off-site transport, particularly in the immediate vicinity. This approach has been employed at the Rancho Seco nuclear facility near Lodi, California. The following regulation applies to the Minimum Demolition Alternative.

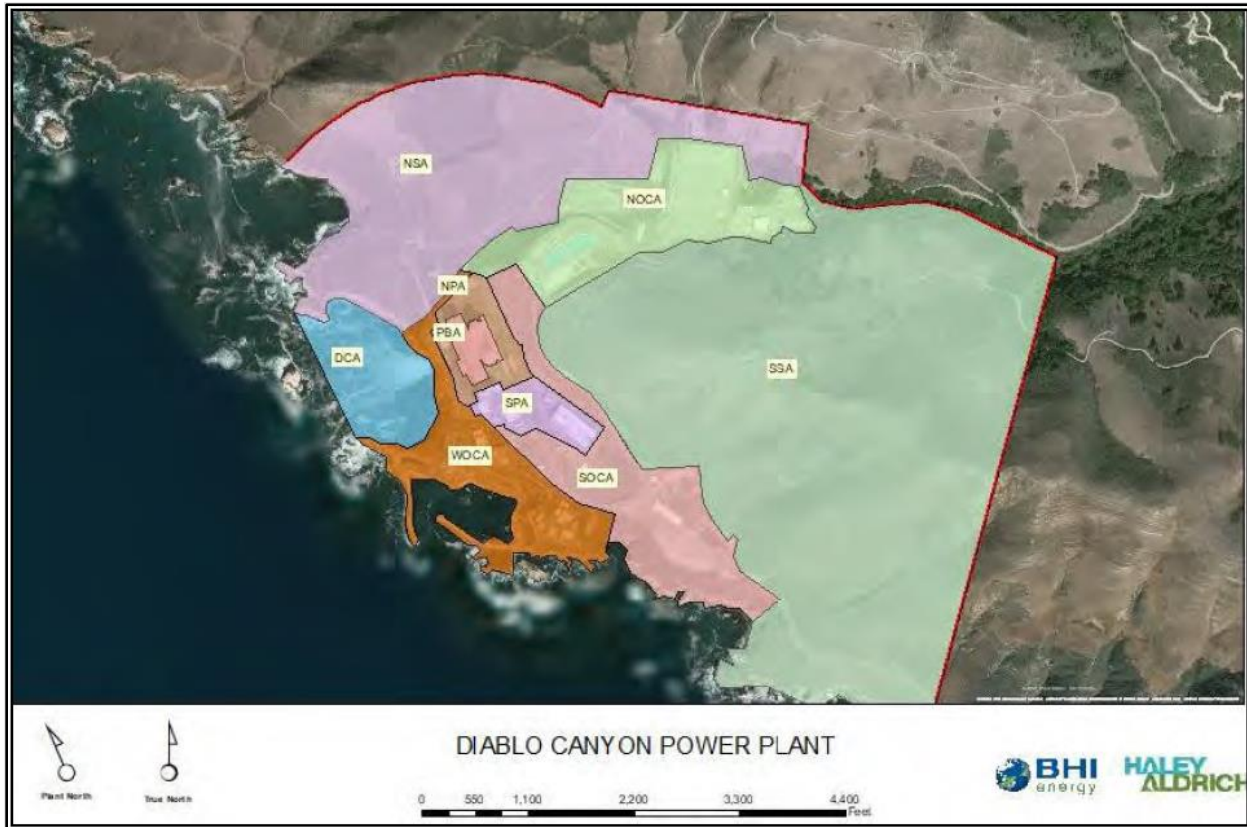
10 CFR 20.1402, (radiological criteria for unrestricted use) states:

*A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a total effective dose equivalent to an average member of the critical group that does not exceed 25 [millirem] mrem (0.25 mSv) per year, including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.*

#### **Site Characterization Study, Historic Site Assessment and Site Characterization Plan**

As discussed in Project Description Section 2.3.7, *Site Characterization Study*, PG&E carried out an Historical Site Assessment (HSA), which was a preliminary investigation designed to collect existing information describing the history of the DCPP from start of operations to present. As noted in Section 2.3.21, *Soil Remediation*, these analyses separated DCPP into nine subareas (see Figure 5-6). Based upon records research and personnel interviews, it was determined that seven of the nine subareas had a probability of some degree of radioactive impacts in the form of radioactive contamination. The other two subareas – the North Site Area (NSA) and South Site Area (SSA) – are primarily open space with no structures except for roadways and fences. Table 5-2, corresponding with Figure 5-6, provides the name, location, and estimated area (square meters) for each of the subareas in which it was determined that some degree of radioactive contamination could occur. Within these seven subareas, individual areas and buildings were determined to be either impacted or non-impacted, based upon the Multiple Agency Survey and Site Investigation (MARSSIM) model. The MARSSIM model assigns three Classes – 1, 2, and 3 to identify the appropriate type and degree of remediation necessary to reduce residual radioactivity to a level that would allow for license termination.

Figure 5-6. Diablo Canyon Power Plant Site Characterization Study Areas



Source: PG&E, 2021b – Figure 4-6.

Table 5-2. Summary of Potentially Radiologically Impacted Areas by Area

Study Subarea	Acronym	Approximate Area (m <sup>2</sup> )	MARSSIM Class
North Owner Controlled Area	NOCA	259,000	N/A
South Owner Controlled Area	SOCA	249,600	Class 3
West Owner Controlled Area	WOCA	207,400	Class 3
Discharge Cove Area	DCA	115,000	Class 3
North Protected Area	NPA	66,500	Class 1
South Protected Area	SPA	53,400	Class 1
Power Block Area	PBA	22,300	Class 1

Source: PG&E, 2021b – Table 4-2.

N/A – North Owner Controlled Area will remain active and therefore was not assessed.

Note: Most DCPP buildings were not assigned a MARSSIM classification because the HSA assumed these buildings would be removed as part of the Proposed Project.

Derived Concentration Guideline Levels (DCGL) are statistically derived limits for each nuclide of radioactivity for a specific site. DCGL have not been determined for the DCPP Decommissioning Project, however, DCGL would be in place prior to Final Status Surveys (FSS) and be used as a standard for releasing Project areas from radioactivity controls. Class 1 are areas that have, or had prior to remediation, a potential for radioactive contamination or known contamination

above the DCGL. Class 2 areas that have, or had prior to remediation, a potential for radioactive contamination or known contamination, but are not expected to exceed a DCGL. Class 3 areas are not expected to contain any residual radioactivity or are expected to contain levels of residual radioactivity at a small fraction of the DCGL. Although the DCGL metric is not the same as the millirem (mrem) metric used as part of the NRC analysis to terminate a Part 50 Facility Operating License, nonetheless it may be an indicator of whether a building or area could possibly remain for unrestricted use and not pose a health risk. No Class 2 categories were assigned to any buildings or soils at the DCPD site.

Excluding the NOCA subarea (e.g., switchyards, Old Steam Generator Storage Facility, water reservoirs, ISFSI, etc.), the HSA categorized the open lands/soils in the SOCA, WOCA, and DCA as Class 3. The PBA, NPA, and SPA subareas were assigned a Class 1 category. It should be noted that most DCPD buildings were not assigned a MARSSIM classification because the HSA assumed that these buildings were going to be removed as noted in the Proposed Project.

The Minimum Demolition Alternative assumes that all structures in the SOCA, WOCA, DCA, NPA, SPA, and PBA subareas would remain in place, including the containment domes and spent fuel pools (PG&E, 2022a).

A Site Characterization Study is anticipated to be initiated in December 2024 (see Table 2-10) with the purpose of identifying and validating radiologically impacted areas for decommissioning, dismantlement, and decontamination and determining required soil remediation efforts. Based on the Site Characterization Study, appropriate decontamination measures would be identified and applied where necessary. Specific and immediate decontamination measures (e.g., fluid disposal, interior equipment removal, scarifying/scabbling, etc.) would be carried out to remove radiological contamination. Other structures and areas would be left for natural radiological decay until NRC requirements for unrestricted use, which are based on a resident farmer scenario of 25 mrem per year, are met and the Part 50 License can be terminated, could result in having buildings on site for several decades preventing potential repurposing of the site. A final determination of whether any structures would need to be removed would be made following completion of the Site Characterization Study and initial decontamination results.

#### **5.4.3.2 Environmental Impact Analysis**

The impacts of the Minimum Demolition Alternative compared to the Proposed Project are described below.

##### ***Aesthetics***

As the location of activities under the Minimum Demolition Alternative would be the same as the Proposed Project, potential impacts to a scenic vista (Impact AES-1) would remain less than significant, and potential impacts to a scenic resource (Impact AES-2) would not occur. During Phase 2, the visual quality of the DCPD site (Impact AES-3) would not improve substantially from existing conditions, as the majority of structures would remain on site, which would increase the no impact conclusion to a less-than-significant impact (Class III). Nighttime lighting impacts that may occur at the SMVR-SB railyard (Impact AES-4) would remain less than significant with mitigation (Class II).

### ***Air Quality***

Criteria air pollutant emissions from this alternative would be lower than those from the Proposed Project as there would be fewer structures demolished and less material hauled to and from the DCPP site. With implementation of MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) the Minimum Demolition Alternative would have less-than-significant impacts related to net increases of criteria air pollutants for which the area is in non-attainment (Impact AQ-2) and impacts on sensitive receptors (Impact AQ-3). This alternative, like the Proposed Project, would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

### ***Biological Resources – Terrestrial***

Under this alternative, impacts from the permanent and temporary loss of native vegetation, ESHAs, and jurisdictional features (Impacts BIO-1, BIO-7, and BIO-9, respectively) are expected to be similar to those described for the Proposed Project since the structures to remain under this alternative are all anticipated to be within the disturbed, unvegetated areas of the DCPP site. Since demolition activities would be minimized, impacts from the introduction and spread of noxious weeds (Impact BIO-2) would be less severe. Similarly, impacts to nesting birds (Impact BIO-4) and special-status wildlife (Impact BIO-6) would be less severe since minimal demolition would result in reduced noise and disturbance and would also retain structures that could be used as potential nesting or roosting sites. Impacts associated with conflicts with local plans and policies (Impact BIO-10) would be the same as those described for the Proposed Project. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under Alternative 3.

### ***Biological Resources – Marine***

Under the Minimum Demolition Alternative, all structures would remain in place, including the containment domes and spent fuel pools. As such, no impacts to marine biological resources are anticipated, and this alternative would therefore have fewer impacts compared to the Proposed Project.

### ***Cultural Resources – Archaeology***

The Minimum Demolition Alternative would result in less structures requiring decommissioning and dismantlement in the short term; however, there is the possibility of future eventual dismantlement of remaining structures and facilities. Soil remediation efforts cannot be fully understood until the completion of the Site Characterization Study. For the purposes of this analysis, the amount of short-term and future ground disturbance is assumed to be less than the Proposed Project.

While ground disturbance at the DCPP site under this alternative would decrease, this alternative would require the same level of ground disturbance as the Proposed Project outside of the SOCA, WOCA, DCA, NPA, SPA, and PBA subareas, resulting in the same potential in the remaining portion of the Proposed Project site to encounter unknown buried cultural resources that could be evaluated as significant; and the same potential to affect a known cultural resource (CA-SLO-

2) located in the NSA subarea during Phase 2 activities if soil remediation extends into native soils under the former sand blast area. Like the Proposed Project, no impacts would occur at the railyard sites.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain a County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*). These mitigation measures would lessen the overall impact, however not to a less-than-significant level. Like the Proposed Project, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable. However, impacts under this alternative would be less severe because of the reduced ground disturbance.

#### ***Cultural Resources – Built Environment***

With no designated or eligible historic-age resources within the Project sites, the Minimum Demolition Alternative would result in no impacts to built environment resources (Impact CUL-1), like the Proposed Project.

#### ***Cultural Resources – Tribal Cultural Resources***

The Minimum Demolition Alternative would result in less structures requiring decommissioning and dismantlement at the DCPD site in the short term; however, there is the possibility of future eventual dismantlement of remaining structures and facilities. Soil remediation efforts cannot be fully understood until the completion of the Site Characterization Study. For the purposes of this analysis, the amount of short term and future ground disturbance is assumed to be less than the Proposed Project.

While ground disturbance under this alternative would decrease at the DCPD site, this alternative would require the same level of ground disturbance as the Proposed Project outside of the SOCA, WOCA, DCA, NPA, SPA, and PBA subareas, resulting in the same potential in the remaining portion of the Proposed Project site to encounter unknown buried cultural resources that could be considered Tribal Cultural Resources and could be evaluated as significant; and the same potential to affect a known Tribal Cultural Resource (CA-SLO-2) located in the NSA subarea during Phase 2 activities if soil remediation extends into native soils under the former sand blast area. Like the Proposed Project, no impacts would occur at the railyard sites.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Like the Proposed Project, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable. However, impacts under this alternative would be less severe because of the reduced ground disturbance.



### **Energy**

The energy impacts from this alternative would be lower than the Proposed Project as fewer structures would be demolished and less material hauled to and from the DCPD site, so less energy would be consumed to decommission the DCPD site. Like the Proposed Project, impacts would be less than significant for Impact EN-1 and Impact EN-2.

### **Geology, Soils, Paleontological Resources, and Coastal Processes**

Impacts to geology and soils under the Minimum Demolition Alternative would not differ from the Proposed Project (Impact GEO-1). MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*) and MM GEO-2 (*Seismic Hazard and Coastal Processes Assessment of Discharge Structure*) identified for the Proposed Project would reduce impacts from this alternative to less than significant. Like the Proposed Project, impacts at the railyards would be less than significant.

Impacts associated with erosion under this alternative would be considerably reduced compared to the Proposed Project (Impact GEO-2), as demolition activities would be minimized and supporting infrastructure would remain in place to the maximum extent feasible. There would be decreased structure demolition and backfill required under this alternative as well as implementation of the site-specific SWPPP and CGP (ACs BIO-3 and WQ-1), thereby reducing ground disturbance and erosion potential. MM HWQ-1 (*Prepare and Implement Drainage Plans*) and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) would ensure impacts from this alternative are less than significant.

Impacts to paleontological resources with this alternative would not differ from the Proposed Project (Impact GEO-3) and impacts would be less than significant. Impacts related to having soils incapable of adequately supporting the use of septic tanks would not differ from the Proposed Project and impacts would be less than significant (Impact GEO-4).

Under the Minimum Demolition Alternative, structures in the coastal zone at the DCPD site may or may not be removed. If removed, coastal processes impacts would be identical to the Proposed Project. If left in place, future sea level rise within this period may expose people and structures in the coastal area to hazards such as larger wave heights and blufftop erosion. Per the CCC CDP A-3-SLO-04-035 for the existing ISFSI, annual surveys of the shoreline nearest the ISFSI transport road and Soil Disposal Site #2 are to be conducted through the life of the ISFSI by a licensed Surveyor or Civil Engineer (CCC, 2004). A site stability evaluation report must be prepared and submitted by a California Certified Engineering Geologist based upon an on-site evaluation that indicates that the bluff setback is adequate to allow for bluff erosion over the 75-year period (CCC, 2004). As such, impacts related to coastal processes would continue to be less than significant. If no decommissioning occurs in the coastal zone, this alternative would neither impair nearshore sediment properties, characteristics, or processes nor impair coastal wave, current, or circulation patterns. Therefore, this alternative would have fewer impacts to coastal processes compared to the Proposed Project. Impacts related to coastal processes for the SMVR-SB or PBR sites would be the same as the Proposed Project as these sites are located in more inland areas.

### ***Greenhouse Gas Emissions***

The GHG emissions from this alternative would be lower than the Proposed Project as fewer structures would be demolished, and less material hauled to and from the DCPP site. The Minimum Demolition Alternative would have less-than-significant impacts related to increases in GHG emissions with implementation of MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*) (Impact GHG-1). Like the Proposed Project, this alternative would not conflict with GHG emissions reductions plans, policies, or regulations (Impact GHG-2).

### ***Hazardous and Radiological Materials***

Impacts from non-radiological hazardous waste under Alternative 3 would be similar to those under the Proposed Project (Impacts HAZ-1 through HAZ-7), but slightly less due to the reduced volume of waste generated limiting exposure. With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/Certification*) and MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), as well as MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*), MM HWQ-2 (*Clean Marina Provisions*), MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), non-radiological hazardous material impacts under this alternative would be less than significant. At the end of decommissioning, the applicable NRC and USEPA standards relative to radiological materials and radiation exposures to workers and the public through all media, are identical. Therefore, radiological impacts under this alternative (Impacts HAZ-8 through HAZ-12) would be the same as the Proposed Project and less than significant.

### ***Hydrology and Water Quality***

This alternative would result in limited demolition, and potentially structures in the coastal zone would remain in place. If remaining structures were improperly or insufficiently maintained, they may degrade over time, potentially impacting water quality. Like the Proposed Project, salinity changes in the Discharge Cove related to brine and wastewater discharges occurring under reduced OTC conditions and eventual elimination of OTC (i.e., shutdown of the Discharge Structure) would continue under this alternative and are less than significant.

While less soil disturbance would occur under Alternative 3, the potential to contaminate groundwater with radiological byproducts, construction materials, and demolition debris during decommissioning remains. The same soil and water management plans and mitigation measures would be required to reduce impacts to less than significant. With respect to groundwater impacts, freshwater demand would be reduced under Alternative 3 as less dust suppression and soil compaction is anticipated with the reduced number of structures to be removed, and the impact would be less than significant.

Impacts related to coastal processes for the SMVR-SB and PBR sites would be the same as the Proposed Project as these sites are located in more inland areas.

### ***Land Use and Planning***

The Minimum Demolition alternative would minimize demolition and removal of structures, and the number of truck transport trips for equipment and waste removal would be less than under

the Proposed Project. However, although a reduction in transport trips would shorten the frequency or overall period of impacts to adjacent land uses, such transport activities during Phase 1 and Phase 2 could still create access disruptions for land uses along the proposed routes (Impact LUP-1). As discussed for the Proposed Project, MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), and MM TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation.

None of the activities under this alternative would extend into adjacent agricultural lands, and there would be no impact to agricultural resources (Impact LUP-2)

### **Noise**

The temporary construction noise and vibration levels for onshore decommissioning under the Minimum Demolition Alternative would be similar, but the duration and intensity may be substantially reduced compared to those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project.

Offshore activities associated with the decommissioning would not occur, thereby avoiding temporary noise associated with those decommissioning activities including underwater noise (see *Biological Resources – Marine*).

### **Public Services and Utilities**

The Minimum Demolition Alternative would initially result in reduced decommissioning waste, materials, truck trips, and demand for utilities due to the reduced number of structures needed to be dismantled and removed. Impacts to emergency services (Impact PSU-1) would be reduced compared to the Proposed Project, as truck trips would be reduced or spread out over a longer period of time. Depending on which buildings remain, the blufftop road segment may not be constructed. Regardless, this road would not serve as an official secondary emergency access road and its absence would not reduce the level of service to the DCPP site. Under this alternative, with the possibility of future eventual dismantlement of remaining structures and facilities, the demand for utilities and amount of waste generated under this alternative would be similar to the Proposed Project. Impacts relating to new or relocated utilities (Impact PSU-2), water supplies and wastewater (Impacts PSU-3 and PSU-4), solid waste (Impact PSU-5), and solid waste regulations (Impact PSU-6) would be the same as the Proposed Project. Alternatively, if retained structures are to be reused in the future, the Minimum Demolition Alternative could result in greater impacts than the Proposed Project depending on the intensity and nature of the future use.

### **Recreation and Public Access**

Impacts to recreation and public access under the Minimum Demolition Alternative would be reduced compared to the Proposed Project because less activities outside of the Project site, such as trucking traffic and personnel traffic, would occur that would temporarily or intermittently interfere with access to local trails or recreational areas along Avila Beach Drive. Like the Proposed Project, with implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordination with Harbormasters*) impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures (Impact REC-1); restricted access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4). Similarly, like the Proposed Project, impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3).

### **Transportation**

**Ground Transportation.** More DCP facilities would remain intact for the Minimum Demolition Alternative compared to the Proposed Project. Therefore, fewer structures and materials would be removed from the site, reducing the number of truck trips compared to the Proposed Project. This alternative would reduce the number of employees and commutes at the DCP site and thus would reduce VMT. With more structures left intact, slightly more operational on-site employees may be required to maintain these structures. However, the reduction in VMT would be similar to the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*) (Impact TRA-1).

Impacts related to incompatible uses (Impact TRA-2) and inadequate emergency access (Impact TRA-3) would be the same as the Proposed Project and reduced to a less-than-significant level with implementation of MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), and MM TRA-5 (*Quarterly Decommissioning Updates*). However, depending on which buildings remain, the bluff-top road segment may not be constructed and therefore MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*) may not be required. As such, historic access through the Diablo Canyon lands may not occur. This connection is not required to support future actions at the site, such as the Marina operations, but would be a benefit of the Proposed Project, which may not occur under this alternative.

**Marine Transportation.** Under this alternative, the export of waste by barge would continue requiring up to 28 round trips (each tug pulls two barges for a total of 55 barges) over a four-year timeframe during Period 1B (2030-2033), which is the same as the Proposed Project. Therefore, offshore marine transportation impacts related to marine vessel safety would be like the Proposed Project and would be less than significant with the implementation of MM TRA-7

(*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). However, the transport of gravel by barge from the Port of Long Beach to fill the Discharge Structure cofferdam (up 15 round trips during Period 1A [2024-2029]) and the transport of quarry rock by barge from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three round trips during Period 1B [2030-2033]) would not be required. Therefore, impacts would be less severe because of the reduction of 15 round trips during Period 1A and three round trips during Period 1B. Like the Proposed Project, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

### **Wildfire**

Under the Minimum Demolition Alternative, minimal structures would require decommissioning and dismantlement in the short term. Therefore, fewer truck trips would be needed to transport the reduced volume of dismantled structures and materials. Fewer workers may also be required for this alternative, resulting in fewer worker vehicles. The large reduction of construction vehicles and trips would have fewer impacts to an emergency response plan and evacuation plan (Impact WF-1) than the Proposed Project. However, with the possibility of future eventual dismantlement of remaining structures and facilities, the eventual increase in worker vehicle trips and truck trips would occur and have similar impacts as the Proposed Project. Impact WF-1 would remain less than significant with mitigation. Given the potential decrease in workers due to the reduced decommissioning activities, wildfire risks (Impacts WF-2 and WF-3) would be less than the Proposed Project. The Minimum Demolition would not expose people or structures to substantial downslope or post-fire slope instability hazards, as the topography of the DCPD site and railyard would not substantially change within the next 60 years. Impact WF-4 would remain less than significant.

## **5.4.4 Alternative 4: Firing Range Minimum Earthwork Alternative**

### **5.4.4.1 Alternative 4 Description**

Under this alternative, excess cut generated from site grading would be utilized in the area of Firing Range (see Figure 5-7), which would be removed under Phase 1 of the Proposed Project. This alternative represents the minimal amount of earthwork necessary to achieve close to natural conditions, while maintaining positive drainage and back filling of voids created by demolition of DCPD structures. This alternative would generate fill material on site from areas of cut (i.e., areas where the finished grade is lower than the existing grade) and reuse clean, crushed on-site concrete derived from the demolition of structures. Alternative 4 would result in approximately 5.8 acres of disturbance and require approximately 92,463 cubic yards (CY) of earthwork (10,585 CY cut; 71,878 CY fill; ~10,000 CY export) in the area of the existing Firing Range as shown in Figure 5-8 (ERM, 2022). No soil would be required from the SE Borrow Site. There would be no changes related to the railyards; therefore, the discussions below focus on the DCPD site.

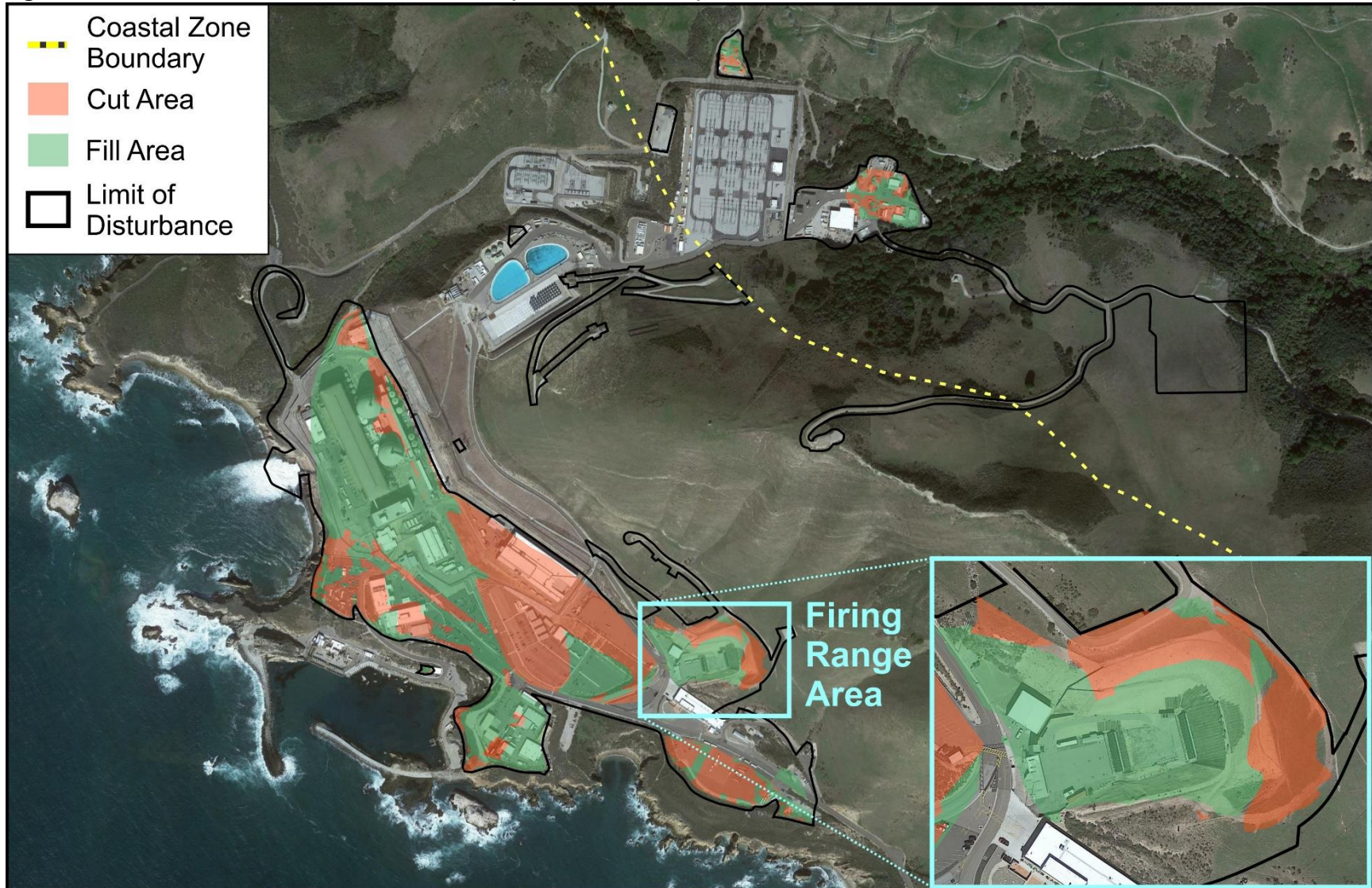
Table 5-3 also accounts for the filling of void spaces created by demolition and removal of the concrete foundations associated with existing structures as well as void space created by the planned removal of impacted soil. All earthwork materials would be sourced on site without

requiring soil from on-site (e.g., the SE Borrow Site) or off-site borrow sources, and therefore, would reduce cut impacts to native hills.

**Figure 5-7. Existing Firing Range**



Figure 5-8. Alternative 4 – Minimum Earthwork (Balanced Cut/Fill)



Source: ERM, 2022 – Scenario 1.

<b>Table 5-3. Alternative 4 Firing Range Minimum Earthwork Cut and Fill Estimate</b>			
<b>Item</b>	<b>Coastal Zone</b>	<b>Inland Zone</b>	<b>Site Total</b>
<b>I. CUT/FILL BALANCE</b>			
<b>A) Volume of Fill for Void Areas (cubic yards)</b>			
<b>a) Structural Demolition – Volume Resulting from Structure Removal:</b>			
i) Reactor 1	22,830	0	22,830
ii) Reactor 2	22,830	0	22,830
iii) Auxiliary Building	33,316	0	33,316
iv) Turbine Buildings	25,866	0	25,866
v) Excavation Depth of Buildings (assumes 3 feet below existing ground surface)	27,943	3,927	31,871
vi) Water Circulation Tunnels <sup>1</sup>	34,244	0	34,244
vii) Intake Structure	11,840	0	11,840
viii) Discharge Structure	16,775	0	16,775
<i>Structural Demolition – Volume resulting from structure removal (i+ii+iii+iv+v+vi+vii+viii):</i>	<i>195,644</i>	<i>3,927</i>	<i>199,572</i>
<b>b) Earthwork – Volume Resulting from Export of Impacted Soil:</b>			
i) Radiologically Contaminated Areas	15,930	0	15,930
ii) Transformer and UST Area	10,000	0	10,000
iii) Existing Firing Range Contaminated Areas	10,000	0	10,000
<i>Earthwork – Volume resulting from export of impacted soil (i+ii+iii):</i>	<i>35,930</i>	<i>0</i>	<i>35,930</i>
<b>c) Earthwork – Soil Fill Volume Resulting from Grading Operations: <sup>2</sup></b>			
i) Firing Range Restoration	71,878	0	71,878
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	300,714	1,946	302,660
iii) SE Borrow Site	0	0	0
iv) Discharge Structure (native soil)	2,215	0	2,215
<i>Earthwork – Soil fill volume resulting from grading operations (i+ii+iii+iv):</i>	<i>374,807</i>	<i>1,946</i>	<i>376,753</i>
<b>Volume of Fill for Void Areas (a+b+c):</b>	<b>606,381</b>	<b>5,873</b>	<b>612,255</b>
<b>B) Volume of Cut Soils and Other Fill Materials (cubic yards)</b>			
<b>a) Earthwork – Soil Cut Volume Resulting from Grading Operations:</b>			
i) Firing Range Restoration	10,585	0	10,585
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	335,482	633	336,115
iii) SE Borrow Site	0	0	0
iv) Discharge Structure (native soil)	2,215	0	2,215
<i>Earthwork – Soil cut volume resulting from grading operations (i+ii+iii+iv):</i>	<i>348,282</i>	<i>633</i>	<i>348,915</i>
<b>b) Volume of Recycled Crushed Concrete Derived from Site Demolition:</b>			
i) Clean concrete aggregate available for reuse in CLSM <sup>1</sup>	30,500	0	30,500
ii) Clean concrete aggregate available for reuse with soil <sup>3</sup>	165,695	0	165,695
<i>Volume of recycled crushed concrete derived from site demolition (i+ii)</i>	<i>196,195</i>	<i>0</i>	<i>196,195</i>
<b>c) Volume of Non-Soil Imported Materials:</b>			
i) Discharge Structure Restoration (quarry rock)	16,775	0	16,775
ii) Cofferdam, excess materials (gravel and concrete)	30,610	0	30,610
iii) CLSM imported components (sand, cement, etc.)	15,584	0	15,584
<i>Non-Earthwork – Volume of imported rock (i+ii+iii)</i>	<i>62,969</i>	<i>0</i>	<i>62,969</i>
<b>Volume of Cut Soils and Other Fill Materials (a+b+c)</b>	<b>607,446</b>	<b>633</b>	<b>608,079</b>
<b>Net Cut (+) / Fill (-) Balance (A-B)</b>	<b>1,065</b>	<b>-5,240</b>	<b>-4,176</b>



<b>Table 5-3. Alternative 4 Firing Range Minimum Earthwork Cut and Fill Estimate</b>			
<b>Item</b>	<b>Coastal Zone</b>	<b>Inland Zone</b>	<b>Site Total</b>
<b>II. EARTHWORK QUANTITY (Per County Titles 22 and 23)</b>			
<b>A) Volume of Fill (cubic yards)</b>			
a) Export of impacted soil (I.A.b)			35,930
b) Grading operations (I.A.c)			376,753
		<i>Volume of Fill (a+b)</i>	<i>412,683</i>
<b>B) Volume of Cut (cubic yards)</b>			
a) Grading operations (I.B.a)			348,915
b) Imported topsoil 4			35,000
		<i>Volume of Cut (a+b)</i>	<i>383,915</i>
		<b><i>Earthwork Quantity (A+B)</i></b>	<b><i>796,553</i></b>
<i>Estimated area of site disturbance, including soil disturbance and vegetation removal (acres): 96</i>			

Source: ERM, 2022 – Earthwork Quantities (as edited by County); PG&E, 2022j –Sheet G-02 – Limits of Disturbance. Acronyms: UST = Underground Storage Tank; CSLM = controlled low strength material

- <sup>1</sup> Clean, crushed concrete generated from structure demolition would be used to create controlled low strength material (CLSM) used to fill the void volume of the water circulation tunnels and Intake Structure. The CLSM may consist of up to two-thirds clean, crushed concrete, or approximately 30,500 CY. The total void volume of the tunnels is 34,244 CY. The total void volume of the Intake Structure is 11,840 CY.
- <sup>2</sup> The volume of clean concrete aggregate available for reuse is based on applying a volume increase of 20 percent to the volume of clean concrete generated from structure demolition. The volume increase is not applied to the quantity of clean, crushed concrete used to create CLSM for filling the water circulation tunnels and the Intake Structure since this concrete may be processed differently and therefore not experience the same bulking factor.
- <sup>3</sup> The volume of soil fill represents the quantity of material required to fill the slopes, parking lots, and other areas. The “volume of soil fill”, “volume of void space resulting from the removal of impacted soil”, and “volume of void space resulting from structure demolition” together comprise the volume of total fill required to achieve the final grades within the grading plan (PG&E, 2021c – PD-6).

#### 5.4.4.2 Environmental Impact Analysis

The impacts of the Firing Range Minimum Earthwork Alternative compared to the Proposed Project are described below.

##### ***Aesthetics***

The Firing Range Minimum Earthwork Alternative would restore the DCPP to a more natural state than under current conditions, but it would not reestablish the original contour of the site as under the Proposed Project. As the location and types of activities occurring under this alternative would be the same as the Proposed Project, potential impacts to a scenic vista (Impact AES-1) and to the visual character and quality of the DCPP site (Impact AES-3) would remain less than significant, and potential impacts to a scenic resource (Impact AES-2) would not occur. The visual quality of the DCPP site would improve from existing conditions during Phase 2, although slightly less than under the Proposed Project. The SE Borrow Site would not be needed in this alternative, avoiding disturbance of a natural slope that is visible from within the DCPP site. The types of activities would result in similar light and glare impacts as the Proposed Project, and Impact AES-4 would remain less than significant (Class III) at the DCPP site and less than significant with mitigation (Class II) at the SMVR-SB railyard site.

### ***Air Quality***

Due to the reduced earthwork involved in restoring the area of the existing Firing Range, criteria air pollutant and fugitive dust emissions would be lower than those from the Proposed Project. Like the Proposed Project, the unmitigated emissions would be significant, and MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) would be required to reduce ozone precursor and PM10 emissions (Impact AQ-2) and impacts on sensitive receptors (Impact AQ-3) to levels that would be less than significant. This alternative, like the Proposed Project would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

### ***Biological Resources – Terrestrial***

The Firing Range Minimum Earthwork Alternative would not require ground disturbance at the SE Borrow Site or tree trimming along the access road to the SE Borrow Site, which reduces the amount of ground disturbance by approximately 18.6 acres. As such, impacts from the permanent and temporary loss of native vegetation (Impact BIO-1) and the introduction of noxious and invasive weeds (Impact BIO-2) would be considerably reduced at the DCPD site compared to the Proposed Project. Impacts to nesting birds (Impact BIO-4), special-status plants (Impact BIO-5), and special-status wildlife (Impact BIO-6) would be similar to those discussed for the Proposed Project but would be reduced in magnitude at the DCPD site since the SE Borrow Site and associated habitat would be left intact. Impacts to ESHAs (Impact BIO-7) and jurisdictional features (Impact BIO-8) would not differ from the Proposed Project since this alternative would require the same level of ground disturbance outside of the SE Borrow Site where these features exist. Impacts associated with conflicts with local plans and policies (Impact BIO-10) would be the same as those described for the Proposed Project. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under Alternative 4.

### ***Biological Resources – Marine***

Under the Firing Range Minimum Earthwork Alternative, in-water and offshore decommissioning activities would continue in the same manner as the Proposed Project. As a result, impacts to marine biological resources would not differ from the Proposed Project. Therefore, impacts to marine biological resources from this alternative would be similar to those described for MBIO-1 through MBIO-5 from activities that were identified to have potential marine biological impacts (e.g., Waste Transportation, Discharge Structure Removal and Restoration, Water Management, Intake Structure Closure, and Marina Reuse).

### ***Cultural Resources – Archaeology***

The Firing Range Minimum Earthwork Alternative would not require ground disturbance at the SE Borrow Site. While ground disturbance at the DCPD site under this alternative would decrease, this alternative would require the same level of ground disturbance as the Proposed Project outside of the SE Borrow Site, resulting in the same potential in the remaining portion of the Proposed Project site to encounter unknown buried cultural resources that could be evaluated

as significant; and the same potential to affect a known cultural resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain a County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*). These measures would lessen the overall impact, but not to a less-than-significant level. Like the Proposed Project, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable. However, impacts under this alternative would be less severe because of the reduced ground disturbance.

#### ***Cultural Resources – Built Environment***

With no designated or eligible historic-age resources within the DCPD site, the Firing Range Minimum Earthwork Alternative would result in no impacts to built environment resources (Impact CUL-1), like the Proposed Project.

#### ***Cultural Resources – Tribal Cultural Resources***

The Firing Range Minimum Earthwork Alternative would not require ground disturbance at the SE Borrow Site. While ground disturbance under this alternative would decrease, this alternative would require the same level of ground disturbance as the Proposed Project outside of the SE Borrow Site, resulting in the same potential in the remaining portion of the DCPD site to encounter unknown buried cultural resources that could be considered Tribal Cultural Resources and could be evaluated as significant; and the same potential to affect a known Tribal Cultural Resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Like the Proposed Project, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable. However, impacts under this alternative would be less severe because of the reduced ground disturbance.

#### ***Energy***

The energy impacts from this alternative would be lower than the Proposed Project as less earthwork would be required at the DCPD site, so less energy would be consumed to decommission the DCPD site. Like the Proposed Project, impacts would be less than significant for Impact EN-1 and Impact EN-2.

### ***Geology, Soils, Paleontological Resources, and Coastal Processes***

Impacts to geology and soils under the Firing Range Minimum Earthwork Alternative would not differ from the Proposed Project (Impact GEO-1). MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*) and MM GEO-2 (*Seismic Hazard and Coastal Processes Assessment of Discharge Structure*) identified for the Proposed Project would reduce impacts from this alternative to less than significant.

Impacts associated with erosion under this alternative would be considerably reduced compared to the Proposed Project (Impact GEO-2), as earthwork would be minimized to achieve close to natural conditions. Under this alternative, approximately 5.8 acres of disturbance would occur compared to 7.2 acres under the Proposed Project. Additionally, the approximately 18.6 acres of ground disturbance at the SE borrow site would not be necessary.

As described in Table 2-6, Full Backfill Cut and Fill Estimate, approximately 57,124 CY of fill taken from the SE Borrow Site would be placed as fill in the Firing Range area for the Proposed Project. Under this alternative, considerably less cut and fill (114,248 CY) would be used compared to the Proposed Project as well as implementation of the site-specific SWPPP and CGP (ACs BIO-3 and WQ-1); thus, erosion impacts would be reduced. MM HWQ-1 (*Prepare and Implement Drainage Plans*) and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) would ensure impacts from this alternative are less than significant.

Impacts to paleontological resources with this alternative would be less than the Proposed Project (Impact GEO-3), as the SE Borrow Site would not be used. Impacts would be less than significant. Impacts related to having soils incapable of adequately supporting the use of septic tanks would not differ from the Proposed Project and impacts would be less than significant (Impact GEO-4).

Under the Firing Range Minimum Earthwork Alternative, activities in the coastal zone at the DCP site would not differ from the Proposed Project. Therefore, impacts related to coastal processes would be the same as the Proposed Project.

### ***Greenhouse Gas Emissions***

The GHG emissions generated from the Firing Range Minimum Earthwork Alternative would be slightly lower than the Proposed Project, as less earthwork would be required saving approximately 3,800 one-way on-site truck trips between the SE Borrow Site and the Firing Range, generating fewer GHG emissions. Impact GHG-1 would be significant but mitigated to a less-than-significant level with implementation of MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*). Like the Proposed Project, this alternative would not conflict with GHG emissions reductions plans, policies, or regulations (Impact GHG-2).

### ***Hazardous and Radiological Materials***

Impacts from non-radiological hazardous waste under Alternative 4 would be very similar to those under the Proposed Project (Impacts HAZ-1 through HAZ-7), as the only difference is with the level of earth movement. Not using the SE Borrow Site would potentially lessen the severity of impacts related to exposure to Valley Fever (Impact HAZ-3). With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/ Certification*) and MM

HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), as well as MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*), MM HWQ-2 (*Clean Marina Provisions*), MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), non-radiological hazardous material impacts under this alternative would be less than significant. Impacts from radiological materials (Impacts HAZ-8 through HAZ-12) would not change because of this alternative and would remain less than significant.

### ***Hydrology and Water Quality***

Alternative 4 would avoid use of the SE Borrow Site, which would reduce the potential for erosion and sedimentation or alteration of drainage patterns in that area but would continue to use fill material generated on site and reuse clean, crushed concrete derived from the demolition of structures to fill the Firing Range and other areas of the DCPD site. The same soil and water management plans and mitigation measures would be required to reduce hydrology and water quality impacts to less than significant.

### ***Land Use and Planning***

Transport activities under Alternative 4 could temporarily limit public access along the proposed routes in a manner that is similar to the Proposed Project. As discussed for the Proposed Project, MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), and MM TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation. None of the activities under this alternative would extend into adjacent agricultural lands, and there would be no impact to agricultural resources (Impact LUP-2).

### ***Noise***

While on-site earthwork associated with the Firing Range would be reduced and trucks hauling dirt from the SE Borrow Site would be eliminated, temporary construction noise and vibration levels for onshore decommissioning at DCPD would continue to be similar to those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project.

### ***Public Services and Utilities***

Less trucking would occur under this alternative and potentially reduce the number of employees and commutes at the DCPD site, resulting in fewer impacts to emergency service response times (Impact PSU-1) compared to the Proposed Project. Impacts relating to new or relocated utilities (Impact PSU-2), water supplies and wastewater (Impacts PSU-3 and PSU-4), solid waste (Impact PSU-5), and solid waste regulations (Impact PSU-6) would remain the same as the Proposed Project. Therefore, impacts would remain less than significant with mitigation for Impact PSU-1 and less than significant for Impacts PSU-1 through PSU-6.

### **Recreation and Public Access**

Impacts to public access and recreation under the Firing Range Minimum Earthwork Alternative would be identical to the Proposed Project, as the changes under this alternative are related to not using the on-site SE Borrow Site. Off-site truck trips would be the same as the Proposed Project under this alternative and would continue to temporarily interfere with access to local trails or recreational areas along Avila Beach Drive. Like the Proposed Project, with implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordination with Harbormasters*) impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures (Impact REC-1); restricted access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4). Similarly, like the Proposed Project, impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3).

### **Transportation**

**Ground Transportation.** The Firing Range Minimum Earthwork Alternative would avoid utilizing the SE Borrow Site and would balance cut and fill from the DCPD site. This would potentially reduce the distance necessary for trucks to transport materials and would lead to a slight reduction in truck VMT. This alternative would reduce the number of employees and commutes at the DCPD site, reducing VMT. This staffing reduction would be the same as the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*) (Impact TRA-1).

The changes in cut and fill assumptions under Alternative 4 would not result in incompatible uses (Impact TRA-2) or alter roadway conditions in a way that would result in inadequate emergency access (Impact TRA-3), such that impacts would be the same as the Proposed Project and would include implementation of MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*).

**Marine Transportation.** Similar to the Proposed Project, this alternative would also require barge trips for the export of waste (up to 28 round trips, where each tug pulls two barges for a total of 55 barges, over a 4-year timeframe during Period 1B [2030-2033]); the transport of gravel from the Port of Long Beach to fill the Discharge Structure cofferdam (up to 15 round trips during Period 1A [2024-2029]); and the transport of quarry rock sourced from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three barge trips during Period 1B [2030-2033]). The number of barge trips would be the same under both the Proposed Project and this alternative. Therefore, under this alternative,

offshore marine transportation impacts related to marine vessel safety would be the same as the Proposed Project and would be less than significant with implementation of MM TRA-7 (*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). Like the Proposed Project, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

### **Wildfire**

Under the Firing Range Minimum Earthwork Alternative, impacts to emergency response and evacuation (Impact WF-1) would be reduced, as fewer trucks would be needed to transport soil and other fill material to the Firing Range from the SE Borrow Site. Fire risks associated with the installation or maintenance of infrastructure (Impact WF-3) would remain the same. Because this alternative would result in fewer cut impacts to native hills, this alternative would be less likely to exacerbate risks due to post-fire slope instability (Impacts WF-2 and WF-4), as the existing slope of surrounding hills would remain largely intact.

## **5.4.5 Alternative 5: Firing Range Partial Backfill Alternative**

### **5.4.5.1 Alternative 5 Description**

This alternative would mimic natural conditions to promote positive drainage and back fill voids created by demolition of DCPP structures. Additional cut would be generated near the existing Firing Range (see Figure 5-9), which when combined with the excess cut generated from site grading, would provide additional fill material for partial backfill of the existing Firing Range area (see Figure 5-10). Alternative 5 would result in approximately 6.2 acres of disturbance, and approximately 105,536 CY of earthwork (9,224 CY cut; 86,312 CY fill plus ~10,000 cy export) in the area of the existing Firing Range (ERM, 2022). Table 5-4 also accounts for the filling of void spaces created by demolition and removal of the concrete foundations associated with existing structures as well as void space created by the planned removal of impacted soil. This alternative would be achieved without on-site (e.g., the SE Borrow Site) or off-site borrow sources, and therefore, would reduce cut impacts to native hills. There would be no changes related to the railyards; therefore, the discussions below focus on the DCPP site.

**Figure 5-9. Hillside South of Firing Range Proposed for Cut**



Figure 5-10. Alternative 5 – Partial Backfill



Source: ERM, 2022 – Scenario 2.



<b>Table 5-4. Alternative 5 Firing Partial Backfill Alternative Cut and Fill Estimate</b>			
<b>Item</b>	<b>Coastal Zone</b>	<b>Inland Zone</b>	<b>Site Total</b>
<b>I. CUT/FILL BALANCE</b>			
<b>A) Volume of Fill for Void Areas (cubic yards)</b>			
<b>a) Structural Demolition – Volume Resulting from Structure Removal:</b>			
i) Reactor 1	22,830	0	22,830
ii) Reactor 2	22,830	0	22,830
iii) Auxiliary Building	33,316	0	33,316
iv) Turbine Buildings	25,866	0	25,866
v) Excavation Depth of Buildings (assumes 3 feet below existing ground surface)	27,943	3,927	31,871
vi) Water Circulation Tunnels <sup>1</sup>	34,244	0	34,244
vii) Intake Structure	11,840	0	11,840
viii) Discharge Structure	16,775	0	16,775
<i>Structural Demolition – Volume resulting from structure removal (i+ii+iii+iv+v+vi+vii+viii):</i>	<i>195,644</i>	<i>3,927</i>	<i>199,572</i>
<b>b) Earthwork – Volume Resulting from Export of Impacted Soil:</b>			
i) Radiologically Contaminated Areas	15,930	0	15,930
ii) Transformer and UST Area	10,000	0	10,000
iii) Existing Firing Range Contaminated Areas	10,000	0	10,000
<i>Earthwork – Volume resulting from export of impacted soil (i+ii+iii):</i>	<i>35,930</i>	<i>0</i>	<i>35,930</i>
<b>c) Earthwork – Soil Fill Volume Resulting from Grading Operations: <sup>2</sup></b>			
i) Firing Range Restoration	86,312	0	86,312
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	300,714	1,946	302,660
iii) SE Borrow Site	0	0	0
iv) Discharge Structure (native soil)	2,215	0	2,215
<i>Earthwork – Soil fill volume resulting from grading operations (i+ii+iii+iv):</i>	<i>389,241</i>	<i>1,946</i>	<i>391,187</i>
<b>Volume of Fill for Void Areas (a+b+c):</b>	<b>620,815</b>	<b>5,873</b>	<b>626,689</b>
<b>B) Volume of Cut Soils and Other Fill Materials (cubic yards)</b>			
<b>a) Earthwork – Soil Cut Volume Resulting from Grading Operations:</b>			
i) Firing Range Restoration	9,224	0	9,224
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	335,482	633	336,115
iii) SE Borrow Site	0	0	0
iv) Discharge Structure (native soil)	2,215	0	2,215
<i>Earthwork – Soil cut volume resulting from grading operations (i+ii+iii+iv):</i>	<i>346,921</i>	<i>633</i>	<i>347,554</i>
<b>b) Volume of Recycled Crushed Concrete Derived from Site Demolition:</b>			
iii) Clean concrete aggregate available for reuse in CLSM <sup>1</sup>	30,500	0	30,500
iv) Clean concrete aggregate available for reuse with soil <sup>3</sup>	165,695	0	165,695
<i>Volume of recycled crushed concrete derived from site demolition (i+ii)</i>	<i>196,195</i>	<i>0</i>	<i>196,195</i>
<b>c) Volume of Non-Soil Imported Materials:</b>			
iv) Discharge Structure Restoration (quarry rock)	16,775	0	16,775
v) Cofferdam, excess materials (gravel and concrete)	30,610	0	30,610

<b>Table 5-4. Alternative 5 Firing Partial Backfill Alternative Cut and Fill Estimate</b>			
<b>Item</b>	<b>Coastal Zone</b>	<b>Inland Zone</b>	<b>Site Total</b>
vi) CLSM imported components (sand, cement, etc.)	15,584	0	15,584
<i>Non-Earthwork – Volume of imported rock (i+ii+iii)</i>	<i>62,969</i>	<i>0</i>	<i>62,969</i>
<b><i>Volume of Cut Soils and Other Fill Materials (a+b+c)</i></b>	<b><i>606,085</i></b>	<b><i>633</i></b>	<b><i>606,718</i></b>
<b><i>Net Cut (+) / Fill (-) Balance (A-B)</i></b>	<b><i>-14,730</i></b>	<b><i>-5,240</i></b>	<b><i>-19,971</i></b>
<b>II. EARTHWORK QUANTITY (Per County Titles 22 and 23)</b>			
<b>A) Volume of Fill (cubic yards)</b>			
a) Export of impacted soil (I.A.b)			35,930
b) Grading operations (I.A.c)			391,187
		<i>Volume of Fill (a+b)</i>	<i>427,117</i>
<b>B) Volume of Cut (cubic yards)</b>			
a) Grading operations (I.B.a)			347,554
b) Imported topsoil <sup>4</sup>			35,000
		<i>Volume of Cut (a+b)</i>	<i>382,554</i>
		<b><i>Earthwork Quantity (A+B)</i></b>	<b><i>809,671</i></b>
<i>Estimated area of site disturbance, including soil disturbance and vegetation removal (acres): 96</i>			

Source: ERM, 2022 – Earthwork Quantities (as edited by County); PG&E, 2022j – Sheet G-02 – Limits of Disturbance. Acronyms: UST = Underground Storage Tank; CSLM = controlled low strength material

<sup>1</sup> Clean, crushed concrete generated from structure demolition would be used to create controlled low strength material (CLSM) used to fill the void volume of the water circulation tunnels and Intake Structure. The CLSM may consist of up to two-thirds clean, crushed concrete, or approximately 30,500 CY. The total void volume of the tunnels is 34,244 CY. The total void volume of the Intake Structure is 11,840 CY.

<sup>2</sup> The volume of clean concrete aggregate available for reuse is based on applying a volume increase of 20 percent to the volume of clean concrete generated from structure demolition. The volume increase is not applied to the quantity of clean, crushed concrete used to create CLSM for filling the water circulation tunnels and the Intake Structure since this concrete may be processed differently and therefore not experience the same bulking factor.

<sup>3</sup> The volume of soil fill represents the quantity of material required to fill the slopes, parking lots, and other areas. The “volume of soil fill”, “volume of void space resulting from the removal of impacted soil”, and “volume of void space resulting from structure demolition” together comprise the volume of total fill required to achieve the final grades within the grading plan (PG&E, 2021c – PD-6).

### 5.4.5.2 Environmental Impact Analysis

The impacts of the Firing Range Partial Backfill Alternative compared to the Proposed Project are described below.

#### ***Aesthetics***

The Firing Range Partial Backfill Alternative would restore the DCPD to a more natural state than Alternative 4, but it would not fully restore the natural contour of the site as under the Proposed Project. As the location and types of activities occurring under this alternative would be the same as the Proposed Project, potential impacts to a scenic vista (Impact AES-1) and to the visual character and quality of the DCPD site (Impact AES-3) would remain less than significant, and potential impacts to a scenic resource (Impact AES-2) would not occur. The visual quality of the DCPD site would improve from existing conditions during Phase 2, although slightly less than under the Proposed Project. The SE Borrow Site would not be needed in this alternative, avoiding disturbance of a natural slope that is visible from within the DCPD site. As the types of activities would result in similar light and glare impacts as the Proposed Project, Impact AES-4 would

remain less than significant (Class III) at the DCPD site and less than significant with mitigation (Class II) at the SMVR-SB railyard site.

### ***Air Quality***

Due to the reduced earthwork involved in restoring the area of the existing Firing Range under Alternative 5, criteria air pollutant and fugitive dust emissions would be lower than those from the Proposed Project but higher than Alternative 4. Like the Proposed Project, the unmitigated emissions would be significant, and MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) would be required to reduce ozone precursor and PM10 emissions (Impact AQ-2) and impacts on sensitive receptors (Impact AQ-3) to levels that would be less than significant. This alternative, like the Proposed Project would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

### ***Biological Resources – Terrestrial***

The Firing Range Partial Backfill Alternative would not require ground disturbance at the SE Borrow Site or oak and other native mature tree trimming along the access road to the SE Borrow Site. However, this alternative would require approximately one-half acre of additional ground disturbance immediately adjacent to the existing Firing Range; an area which includes native coyote brush scrub and wild oats and annual brome grass habitat. As such, impacts from the permanent and temporary loss of native vegetation (Impact BIO-1) and the introduction of noxious and invasive weeds (Impact BIO-2) would be similar at the DCPD site compared to the Proposed Project. Impacts to nesting birds (Impact BIO-4), special-status plants (Impact BIO-5), and special-status wildlife (Impact BIO-6) at the DCPD site would be the same as those discussed for the Proposed Project. Impacts to ESHAs (Impact BIO-7) and jurisdictional features (Impact BIO-8) would not differ from the Proposed Project since this alternative would require the same level of ground disturbance within areas defined as ESHAs. Impacts associated with conflicts with local plans and policies (Impact BIO-10) would be the same as those described for the Proposed Project. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under Alternative 5.

### ***Biological Resources – Marine***

Under the Firing Range Partial Backfill Alternative, in-water and offshore decommissioning activities would continue in the same manner as the Proposed Project. As a result, impacts to marine biological resources would not differ from the Proposed Project. Therefore, impacts to marine biological resources from this alternative would be similar to those described for MBIO-1 through MBIO-5 from activities that were identified to have potential marine biological impacts (e.g., Waste Transportation, Discharge Structure Removal and Restoration, Water Management, Intake Structure Closure, and Marina Reuse).

### ***Cultural Resources – Archaeology***

The Firing Range Partial Backfill Alternative would not require ground disturbance at the SE Borrow Site but would disturb an additional area adjacent and south of the Firing Range. While ground disturbance at the DCPD site under this alternative would slightly decrease, this alterna-

tive would require a similar level of ground disturbance as the Proposed Project, resulting in the same potential in the remaining portion of the Proposed Project site to encounter unknown buried cultural resources that could be evaluated as significant; and the same potential to affect a known cultural resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain a County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*). These measures would lessen the overall impact, but not to a less-than-significant level. Like the Proposed Project, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable. However, impacts under this alternative would be less severe because of the reduced ground disturbance.

#### ***Cultural Resources – Built Environment***

With no designated or eligible historic-age resources within the DCPD site, the Firing Range Partial Backfill Alternative would result in no impacts to built environment resources (Impact CUL-1), like the Proposed Project.

#### ***Cultural Resources – Tribal Cultural Resources***

The Firing Range Partial Backfill Alternative would not require ground disturbance at the SE Borrow Site but would disturb an additional area adjacent and south of the Firing Range. While ground disturbance under this alternative would slightly decrease, this alternative would require a similar level of ground disturbance as the Proposed Project, resulting in the same potential to encounter unknown buried cultural resources that could be considered Tribal Cultural Resources and could be evaluated as significant; and the same potential to affect a known Tribal cultural Resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Like the Proposed Project, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable. Although, impacts under this alternative would be less severe because of the reduced ground disturbance.

#### ***Energy***

The energy impacts from the Firing Range Partial Backfill Alternative would be lower than the Proposed Project, as less earthwork at the DCPD site would be required, resulting in less energy

consumption, but more than Alternative 4. Like the Proposed Project, impacts would be less than significant for Impact EN-1 and Impact EN-2.

### ***Geology, Soils, Paleontological Resources, and Coastal Processes***

Impacts to geology and soils under the Firing Range Partial Backfill Alternative would not differ from the Proposed Project (Impact GEO-1). MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*) and MM GEO-2 (*Seismic Hazard and Coastal Processes Assessment of Discharge Structure*) identified for the Proposed Project would reduce impacts from this alternative to less than significant.

Impacts associated with erosion under this alternative would be reduced compared to the Proposed Project (Impact GEO-2), as the SE Borrow Site would not be used, and more localized borrow material from the hillside south of the Firing Range would instead be utilized. Under this alternative, approximately 6.2 acres of disturbance would occur compared to 7.2 acres under the Proposed Project.

As described in Table 2-6, Full Backfill Cut and Fill Estimate, approximately 57,124 CY of fill taken from the SE Borrow Site would be placed as fill in the Firing Range area for the Proposed Project. Under this alternative, considerably less cut and fill (114,248 CY) would be used compared to the Proposed Project as well as implementation of the site-specific SWPPP and CGP (ACs BIO-3 and WQ-1); thus, erosion impacts would be reduced. MM HWQ-1 (*Prepare and Implement Drainage Plans*) and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) would ensure impacts from this alternative are less than significant.

Impacts to paleontological resources with this alternative would be less than the Proposed Project (Impact GEO-3), as the SE Borrow Site would not be used. Impacts would be less than significant. Impacts related to having soils incapable of adequately supporting the use of septic tanks would not differ from the Proposed Project and impacts would be less than significant (Impact GEO-4).

Under the Firing Range Partial Backfill Alternative, activities in the coastal zone at the DCPD site would not differ from the Proposed Project. Therefore, impacts related to coastal processes would be the same as the Proposed Project.

### ***Greenhouse Gas Emissions***

The GHG emissions generated from the Firing Range Partial Backfill Alternative would be slightly lower than the Proposed Project, as less earthwork would be required saving approximately 3,800 one-way on-site truck trips between the SE Borrow Site and the Firing Range, generating fewer GHG emissions, but more than Alternative 4. Impact GHG-1 would be mitigated to a less-than-significant level with implementation of MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*). Like the Proposed Project, this alternative would not conflict with GHG emissions reductions plans, policies, or regulations (Impact GHG-2).

### ***Hazardous and Radiological Materials***

Impacts from non-radiological hazardous waste under Alternative 4 would be very similar to those under the Proposed Project (Impacts HAZ-1 through HAZ-7), as the only difference is with

the level of earth movement. Not using the SE Borrow Site would potentially lessen the severity of impacts related to exposure to Valley Fever (Impact HAZ-3). With MMs HAZ-1 through HAZ-3, MMs HWQ-1 and HWQ-2, and MMs PSU-1 and PSU-2, non-radiological hazardous material impacts under this alternative would be less than significant. Impacts from radiological materials (Impacts HAZ-8 through HAZ-12) would not change because of this alternative and would remain less than significant.

### ***Hydrology and Water Quality***

Alternative 5 would avoid use of the SE Borrow Site, which would reduce the potential for erosion and sedimentation or alteration of drainage patterns in that area and reduce on-site truck hauling by up to 3,800 one-way trips. However, Alternative 5 would continue to use fill material generated on site and reuse clean, crushed concrete derived from the demolition of structures to fill the Firing Range and other areas of the DCPD site. The same soil and water management plans and mitigation measures would be required to reduce hydrology and water quality impacts to less than significant.

### ***Land Use and Planning***

Transport activities under Alternative 5 could temporarily limit public access along the proposed routes in a manner that is similar to the Proposed Project. As discussed for the Proposed Project, MM TRA-1 through MM TRA-5 would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation. None of the activities under this alternative would extend into adjacent agricultural lands, and there would be no impact to agricultural resources (Impact LUP-2).

### ***Noise***

While on-site earthwork associated with the Firing Range would be reduced (but not as much as under Alternative 4) and trucks hauling dirt from the SE Borrow Site would be eliminated compared to the Proposed Project, temporary construction noise and vibration levels for onshore decommissioning at DCPD would continue to be similar overall to those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project.

### ***Public Services and Utilities***

Less trucking would occur under the Firing Range Partial Backfill Alternative and potentially reduce the number of employees and commutes to the DCPD site, resulting in fewer impacts to emergency service response times (Impact PSU-1) compared to the Proposed Project. Impacts relating to new or relocated utilities (Impact PSU-2), water supplies and wastewater (Impacts PSU-3 and PSU-4), solid waste (Impact PSU-5), and solid waste regulations (Impact PSU-6) would remain the same as the Proposed Project. Therefore, impacts would remain less than significant with mitigation for Impact PSU-1 and less than significant for Impacts PSU-1 through PSU-6.

### **Recreation and Public Access**

Impacts to public access and recreation under the Firing Range Partial Backfill Alternative would be identical to the Proposed Project, as the changes under this alternative are related to not using the on-site SE Borrow Site and use of additional soil cut from an area immediately adjacent to the Firing Range. Off-site truck trips would be the same as the Proposed Project under this alternative and would continue to temporarily interfere with access to local trails or recreational areas along Avila Beach Drive. Like the Proposed Project, with implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordination with Harbormasters*) impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures (Impact REC-1); restricted access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4). Similarly, like the Proposed Project, impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3).

### **Transportation**

**Ground Transportation.** The Firing Range Partial Backfill Alternative would avoid utilizing the SE Borrow Site and would balance cut and fill from the DCPD site. This would potentially reduce the distance necessary for trucks to transport materials and would lead to a slight reduction in truck VMT. This alternative would reduce the number of employees and commutes at the DCPD site, reducing VMT. This staffing reduction would be the same as the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*) (Impact TRA-1).

The changes in cut and fill assumptions under Alternative 5 would not result in incompatible uses (Impact TRA-2) or alter roadway conditions in a way that would result in inadequate emergency access (Impact TRA-3), such that impacts would be the same as the Proposed Project and would include the implementation of MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*).

**Marine Transportation.** Similar to the Proposed Project, this alternative would also require barge trips for the export of waste (up to 28 round trips, where each tug pulls two barges for a total of 55 barges, over a four-year timeframe during Period 1B [2030-2033]); the transport of gravel from the Port of Long Beach to fill the Discharge Structure cofferdam (up to 15 round trips during Period 1A [2024-2029]); and the transport of quarry rock sourced from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three round trips during Period 1B [2030-2033]). The number of barge trips would be the same under both the Proposed Project and this alternative. Therefore, under this alternative, offshore marine transportation impacts related to marine vessel safety would be the same as the

Proposed Project and would be less than significant with implementation of MM TRA-7 (*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). Like the Proposed Project, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

### ***Wildfire***

Under the Firing Range Partial Backfill Alternative, impacts to emergency response and evacuation (Impact WF-1) would be reduced, as fewer trucks would be needed to transport soil and other fill material to and from the DCPP site. Fire risks associated with the installation or maintenance of infrastructure (Impact WF-3) would remain the same. Because this alternative would result in fewer cut impacts to native hills, this alternative would be less likely to exacerbate risks due to post-fire slope instability (Impacts WF-2 and WF-4), as the existing slope of surrounding hills would remain largely intact.

## **5.4.6 Alternative 6: No Waste by Rail Alternative**

### **5.4.6.1 Description**

For this alternative all decommissioning waste would be transported by truck or barge; no waste would be transported by rail. As such, the 99 truck trips slated to be sent to the SMVR-SB railyard, totaling approximately 8,300 tons (see Table 2-8), would instead be shipped by truck to Energy Solutions Clive, Utah or Waste Control Specialists, Andrews, Texas. Additionally, it is possible more truck trips could be required to ensure trucks can traverse the roadways and bridges between the DCPP site and these end destinations; otherwise, bridge upgrades could be required. All other aspects of this alternative would be identical to the Proposed Project.

### **5.4.6.2 Environmental Impact Analysis**

The impacts of the No Waste by Rail Alternative compared to the Proposed Project are described below.

### ***Aesthetics***

As proposed decommissioning activities within the DCPP site would not substantially change under this alternative, Impact AES-1 would remain less than significant within Port San Luis Harbor, Impact AES-2 would remain no impact, and Impact AES-3 would remain less than significant within the DCPP site. This alternative would not require mitigation to reduce nighttime lighting impacts, as there would be no overnight activities at the SMVR-SB railyard. Therefore, Impact AES-4 would be eliminated at the railyards and would remain less than significant (Class III) at the DCPP site.

### ***Air Quality***

Air pollutant emissions from the No Waste by Rail Alternative are anticipated to be lower than the Proposed Project in Santa Barbara County, as there would be no construction or operational emissions at the SMVR-SB railyard. Air pollutant emissions would be slightly more in San Luis Obispo County, as the same trucks would leave the DCPP site to haul away material but would travel longer distances within San Luis Obispo County (PG&E, 2022d). Emissions would also be



greater in other counties (other than San Luis Obispo and Santa Barbara County) due to more truck travel. Like the Proposed Project, the unmitigated emissions in SLO County would be significant, and MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) would be required to reduce ozone precursor and PM10 emissions (Impact AQ-2) and impacts on sensitive receptors (Impact AQ-3) to less-than-significant levels. Like the Proposed Project, this alternative would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

### ***Biological Resources – Terrestrial***

The No Waste by Rail Alternative would remove the potential for impacts to terrestrial biological resources at the railyard facilities since they would not be utilized under this alternative. Impacts from the permanent and temporary loss of vegetation (Impact BIO-1) and the introduction and spread of noxious and invasive species (Impact BIO-2) would be the same at the DCPD site compared to the Proposed Project under this alternative. Impacts to nesting birds (Impact BIO-4) and special-status species (Impacts BIO-5 and BIO-6) would be slightly reduced since the railyards and adjacent habitats would not be subject to increased levels of noise and fugitive dust from Project activities. Impacts associated with conflicts with local plans and policies (Impact BIO-10) would be the same as those described for the Proposed Project. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under the No Waste by Rail Alternative.

### ***Biological Resources – Marine***

Impacts to marine biological resources from the No Waste by Rail Alternative would not differ from the Proposed Project because in-water and offshore decommissioning activities would continue in the same manner as the Proposed Project. Therefore, impacts to marine biological resources from this alternative would be similar to those described for MBIO-1 through MBIO-5 from activities that were identified to have potential marine biological impacts (e.g., Waste Transportation, Discharge Structure Removal and Restoration, Water Management, Intake Structure Closure, and Marina Reuse).

### ***Cultural Resources – Archaeology***

The No Waste by Rail Alternative would involve slightly less ground disturbance than the Proposed Project because no disturbance would occur at the railyards. While ground disturbance under this alternative would decrease slightly, the railyards were not identified as areas that are sensitive for cultural resources, and no activities at the railyards would disturb native soils. This alternative would require the same level of ground disturbance as the DCPD site, resulting in the same potential to encounter unknown buried cultural resources that could be evaluated as significant; and the same potential to affect a known cultural resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain a County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a*

*Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*). These measures would lessen the overall impact, but not to a less-than-significant level. Like the Proposed Project, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable.

### ***Cultural Resources – Built Environment***

With no designated or eligible historic-age resources within the DCPD site, the No Waste by Rail Alternative would result in no impacts to built environment resources (Impact CUL-1), like the Proposed Project.

### ***Cultural Resources – Tribal Cultural Resources***

The No Waste by Rail Alternative would require slightly less ground disturbance than the Proposed Project because no disturbance would occur at the railyards. While ground disturbance under this alternative would decrease slightly, the railyards were not identified as areas that are sensitive for cultural resources, and no activities at the railyards would disturb native soils. This alternative would require the same level of ground disturbance at the DCPD site, resulting in the same potential to encounter unknown buried cultural resources that could be considered Tribal Cultural Resources and could be evaluated as significant; and the same potential to affect a known Tribal Cultural Resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Like the Proposed Project, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable.

### ***Energy***

The energy impacts from the No Waste by Rail Alternative would be similar to the Proposed Project, as construction and transfer of material would not occur at the railyards. However, material would still need to be transported out of state via truck instead of rail, which would use more energy per mile. Impacts, like the Proposed Project, would be less than significant for Impact EN-1 and Impact EN-2.

### ***Geology, Soils, Paleontological Resources, and Coastal Processes***

Impacts to geology, soils, and paleontological resources at the DCPD site under this alternative would not differ from the Proposed Project (Impacts GEO-1 through GEO-4). This alternative would not utilize the railyards, therefore no impact would occur at the rail sites.

Activities in the coastal zone would not differ from the Proposed Project, although more barge trips are possible, which would increase exposure of workers to coastal hazards and increase the

risk of pollutant release in the event of a seiche in the Intake Cove. The same mitigation would apply, and impacts would be like the Proposed Project.

### ***Greenhouse Gas Emissions***

The GHG impacts from the No Waste by Rail Alternative would be similar to the Proposed Project as no construction and transfer of material would occur at the railyards. However, material would still need to be transported out of state via truck instead of rail, which would emit more GHGs per mile traveled. Impact GHG-1 would be significant but mitigated to a less-than-significant level with implementation of MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*). Like the Proposed Project, this alternative would not conflict with GHG emissions reductions plans, policies, or regulations (Impact GHG-2).

### ***Hazardous and Radiological Materials***

This alternative would result in no impacts from non-radiological hazardous materials at the PBR and SMVR-SB site since no hazardous materials would be transported to the railyard facilities. Impacts at the DCPD would remain the same (Impacts HAZ-1 through HAZ-7). With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/ Certification*) and MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), as well as MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*), MM HWQ-2 (*Clean Marina Provisions*), MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), impacts under this alternative would be less than significant. Impacts from radiological materials (Impacts HAZ-8 through HAZ-12) would be the same as the Proposed Project and would remain less than significant, with no impacts occurring at the railyards. As noted in Appendix G2 and the UCLA/PG&E study (PG&E, 2020b), the risks associated with transportation by truck or rail are very low and well below transportation safety standards so the transportation mode would not change impacts.

### ***Hydrology and Water Quality***

Under Alternative 6, accidental spills or leaks of gasoline, diesel fuel, oil, hydraulic fluid, lubricants, transmission fluid, and other fluids associated with heavy haul trucks, specialty transporters, and use of barges could increase because rail transport would not be used. This would result in a potential increase in impacts to water quality compared to the Proposed Project, including increased risk of pollutant release in the event of a seiche in the Intake Cove. The same soil and water management plans and mitigation measures would be required to reduce hydrology and water quality impacts to less than significant. No impacts would occur at the railyards.

### ***Land Use and Planning***

Under this alternative, waste transport for Phase 1 and Phase 2 would still occur by truck and barge. This alternative would avoid any public access impacts for the land uses along the railyard haul truck routes (Price Canyon Road, Bello Street, and Betteravia Road), and there would be no temporary impact in those areas. Regarding the management of construction-related traffic along the remaining transport routes (i.e., along Avila Beach Drive), MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance*

*Notification of Decommissioning*), and MM TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation. None of the activities under this alternative would extend into adjacent agricultural lands, and there would be no impact to agricultural resources (Impact LUP-2).

### **Noise**

Temporary construction noise and vibration levels for onshore decommissioning at DCPD would be the same as the Proposed Project for Impact NOI-1 through NOI-3. However, impacts associated with railyard modifications and operation of railyards to transport waste off site would be eliminated.

### **Public Services and Utilities**

This alternative would result in no impact to public services and utilities at the railyard facilities since refurbishment activities and operations would not occur. However, the number of truck trips would increase, resulting in greater impacts to emergency service response times (Impact PSU-1). This represents an incremental increase in trucking activity compared to the Proposed Project over the course of several years. MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*), MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM TRA-1 (*Truck Transportation Outside of Peak Hours*), and MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*) would continue to reduce impacts to less than significant. Impacts of MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) would remain the same as the Proposed Project. Road and bridge upgrades may be required to support the greater number of truck trips, thus potentially requiring modifications to the existing stormwater drainage infrastructure along truck routes (Impact PSU-2). All other activities occurring under this alternative would be the same as the Proposed Project. Impacts to water resources (Impact PSU-3) and impacts related to wastewater generation (Impact PSU-4) would remain the same as the Proposed Project. This alternative would continue to comply with all applicable regulations related to solid waste (Impact PSU-6), and impacts would remain less than significant.

### **Recreation and Public Access**

The No Waste by Rail Alternative would shift all rail trips to direct truck trips resulting in an incremental increase in trucking activity compared to the Proposed Project over the course of several years. Construction trucks would follow the same routes and protocols and would not cause any delays or road closures compared to the Proposed Project. Therefore, impacts to public access and recreation under this alternative would be the same as the Proposed Project because transport of material offsite would still occur, resulting in truck trips that could temporarily interfere with access to local trails or recreational areas along Avila Beach Drive. Like the Proposed Project, with implementation of MM REC-1 (*Commercial Fishing Operations Access*

*Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordination with Harbormasters*) impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures (Impact REC-1); restricted access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4). Similarly, like the Proposed Project, impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3).

### ***Transportation***

**Ground Transportation.** This alternative would shift all rail trips to direct truck trips. The Proposed Project ground transportation VMT analysis conservatively assumes that 62 of the 99 potential rail trips would be completed via direct truck. Rail transportation does not contribute to VMT, other than the trucking of materials to and from railyards. As such, compared to the Proposed Project, the No Waste by Rail Alternative would result in a slight increase in the VMT generated by truck activity. This would be offset, however, by a reduction in VMT related to employee trips as no additional employees would be needed at rail facilities. As such impacts related to VMT (Impact TRA-1) would be similar to the Proposed Project, with VMT being substantially lower than existing conditions. Impacts would be mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*).

As noted above, the Proposed Project ground transportation VMT analysis conservatively assumes that 62 of the 99 potential rail trips would be completed via direct truck. Under this alternative, the remaining 37 rail trips would be replaced by direct truck trips. Those trucks would follow the same routes and protocols and would not cause any delays or road closures compared to the Proposed Project. This represents an incremental increase in trucking activity compared to the Proposed Project over the course of several years. Therefore, safety impacts related to incompatible uses (Impact TRA-2) would be less than significant, and impacts related to inadequate emergency access (TRA-3) would remain the same as the Proposed Project with implementation of MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*).

**Marine Transportation.** Similar to the Proposed Project, this alternative would also require barge trips for the export of waste (28 round trips, where each tug pulls two barges for a total of 55 barges, over a four-year timeframe during Period 1B [2030-2033]); the transport of gravel from the Port of Long Beach to fill the Discharge Structure cofferdam (up to 15 round trips during Period 1A [2024-2029]); and the transport of quarry rock sourced from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three round trips during Period 1B [2030-2033]). The number of barge trips would be the same under both the Proposed Project and this alternative. Therefore, under this alternative,

offshore marine transportation impacts related to marine vessel safety would be the same as the Proposed Project and would be less than significant with implementation of MM TRA-7 (*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). Like the Proposed Project, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

### **Wildfire**

The No Waste by Rail Alternative would result in no impacts relating to wildfire risk at the railyard sites since refurbishment and waste transport would not occur at the railyard facilities. However, the number of truck trips would increase, resulting in greater impacts to emergency response and evacuation (Impact WF-1), but trucks would follow the same routes and protocols and would not cause any delays or road closures compared to the Proposed Project. This represents an incremental increase in trucking activity compared to the Proposed Project over the course of several years. MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) would continue to reduce impacts to less than significant. Road and bridge upgrades may be required to support the increased number of truck trips, thus potentially exacerbating fire risk during temporary construction activities (Impact WF-3). Wildfire impacts at the DCPD site would remain similar, as activities under this alternative would be the same as the Proposed Project. Impacts WF-2 and WF-4 would remain less than significant.

## **5.4.7 Alternative 7: Delayed Decommissioning Alternative**

### **5.4.7.1 Alternative 7 Description**

Under this alternative it is assumed DCPD operations would continue if PG&E were to be approved for extended operations per Senate Bill (SB) 846 (see Executive Summary Section ES.1, Background, Project Location, and Project Scope). In September 2022, the California legislature passed SB 846, which authorized the extension of operations at the DCPD for up to five additional years (no later than 2029 for Unit 1 and 2030 for Unit 2) under specified conditions. In March 2023, the NRC authorized continued operations at DCPD while the NRC considers PG&E's license renewal application. Additionally, several state agencies have reported and confirmed that DCPD is needed as a continued source of electricity to support statewide electric grid reliability (San Luis Obispo, 2023).

Under this scenario of extended operations, some decommissioning activities may occur simultaneously. Specifically, three proposed buildings, the Vertical Cask Transporter (VCT) Warehouse, Security Warehouse, and a temporary decommissioning office building would be constructed during extended operations, prior to plant shutdown and the onset of full decommissioning of the DCPD. The VCT Warehouse would be approximately 5,400 square feet, 60 feet wide, 90 feet long, and up to 40 feet tall (ERM, 2023). The Security Warehouse would be constructed on top of a concrete slab on grade, and would be approximately 4,800 square feet, 60 feet wide, 80 feet long, and 25 feet tall (ERM, 2023). The temporary decommissioning office building would also be constructed on top of a concrete slab on grade and would be metal, 2,880 square feet, 48 feet wide, and approximately 22 feet tall (ERM, 2023). These facilities would be located in disturbed areas of the DCPD site away from the reactors. The VCT Warehouse would be constructed north

of the ISFSI, the Security Warehouse would be located in the East Canyon Area, and the decommissioning office building would be located off of Decom Avenue (see Figure 2-9). The remaining decommissioning activities would proceed identically to the Proposed Project but would occur five years later (or more) after shutdown.

Construction of the three buildings would involve equipment needed for construction of the concrete foundations, plumbing, framing, insulation, painting, drywall and overhead door installation, electrical, and interior finish. Crews of three to 14 construction personnel would be required per building, with a maximum of approximately 40 workers if all three buildings were to be constructed at the same time. Construction of the VCT Warehouse and temporary decommissioning office building would each occur over an eight-month period and the Security Warehouse would require a six-month construction period.

#### **5.4.7.2 Environmental Impact Analysis**

The impacts of the Delayed Decommissioning Alternative compared to the Proposed Project are described below. This analysis focuses on the change in timing of construction of the three decommissioning-related buildings in relation to a delay in decommissioning. Extended operations of the DCPP are not addressed; such analyses are to be completed as required by SB 846 and are outside the scope of the Applicant's Proposed Project and associated alternatives.

##### ***Aesthetics***

The temporary construction and use of the VCT Warehouse, Security Warehouse, and decommissioning office building prior to full decommissioning would occur entirely within the DCPP site adjacent to the existing electrical infrastructure, and these activities would not create a notable change to views of the DCPP site and surrounding landscape. The three buildings would have heights of 40 feet, 25 feet, and 22 feet, respectively, which would be substantially smaller than some of the existing buildings on site, such as the six-story office building. Delayed decommissioning activities anticipated to occur at the DCPP, and railyard sites would be the same as described for the Proposed Project. Potential impacts to a scenic vista (Impact AES-1) and impacts to the visual character or quality of the sites (Impact AES-3) would remain less than significant, and damage to sensitive scenic resources (Impact AES-2) would remain no impact. Impacts from nighttime lighting at railyard sites (Impact AES-4) would be expected to be the same as the Proposed Project (i.e., Class II), and would require mitigation to control any temporary or permanent lighting.

##### ***Air Quality***

The timing of the criteria air pollutant emissions would change under this alternative, with the emissions related to the three buildings occurring simultaneously with extended operations of the DCPP followed by the remainder of emissions occurring at least five or more years later than those from the Proposed Project. This alternative would result in a portion of Phase 1 emissions occurring during extended operations, prior to plant shutdown and the onset of full decommissioning. This alternative would involve existing operations occurring at the same time as construction of the VCT Warehouse, Security Warehouse, and decommissioning office building. Like the Proposed Project, the unmitigated emissions of ozone precursors (NO<sub>x</sub> and VOC) during

Phase 1 would occur at levels that would be potentially significant. To reduce the impact of ozone precursor emissions during Phase 1, the majority of which would occur after construction of the three buildings, MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) would ensure impacts are less than significant (Impacts AQ-2 and AQ-3). The Delayed Decommissioning Alternative, like the Proposed Project would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

### ***Biological Resources – Terrestrial***

Impacts from the permanent and temporary loss of vegetation (Impact BIO-1) and the introduction and spread of noxious and invasive species (Impact BIO-2) would not differ from the Proposed Project as the overall land-based decommissioning activities would continue to impact the same areas, just at different points in time. Impacts would remain less than significant with mitigation under this alternative. Impacts associated with the loss, harm, injury, harassment, or potential mortality of common terrestrial wildlife (Impact BIO-3) and interference with established wildlife migratory corridors or terrestrial wildlife nursery sites (Impact BIO-8) would remain less than significant. Impacts to nesting birds (Impact BIO-4), special-status species (Impacts BIO-5 and BIO-6), and ESHAs (Impact BIO-7) would remain less than significant with mitigation. Impacts associated with conflicts with local plans and policies (Impact BIO-10) would not occur, which is the same as the Proposed Project. PG&E would implement the mitigation measures described for the Proposed Project to reduce impacts to less than significant under the Delayed Decommissioning Alternative.

### ***Biological Resources – Marine***

Impacts to marine biological resources from the Delayed Decommissioning Alternative would not differ from the Proposed Project because in-water and offshore decommissioning activities would continue in the same manner as the Proposed Project. Therefore, impacts to marine biological resources from this alternative would be the same as those described for Impact MBIO-1 through Impact MBIO-5 from activities that were identified to have potential marine biological impacts (e.g., Waste Transportation, Discharge Structure Removal and Restoration, Water Management, Intake Structure Closure, and Marina Reuse).

### ***Cultural Resources – Archaeology***

The same areas as the Proposed Project would be impacted under this alternative. MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), and CUL-12 (*Discovery of Human Remains*) would apply during the initial construction of the three buildings, while MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), and MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*) would be applicable during the remainder of decommissioning and future actions



related to Marina operations. Like the Proposed Project, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable.

### ***Cultural Resources – Built Environment***

As there are no designated or eligible historic-age resources within the DCPD site, this alternative would not result in impacts to built environment resources (Impact CUL-1), which is the same as the Proposed Project.

### ***Cultural Resources – Tribal Cultural Resources***

The same areas would be impacted under this alternative. Therefore, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable with the implementation of mitigation.

### ***Energy***

The Delayed Decommissioning Alternative, like the Proposed Project, would have less-than-significant impacts related to wasteful, inefficient, or unnecessary consumption of energy sources (Impact EN-1), and would have less-than-significant impacts regarding confliction with State or local plans for renewable energy and energy efficiency (Impact EN-2). Diesel fuel would still be consumed when decommissioning takes place, but currently there are no alternative methods for disposing decommissioning debris that would consume less energy. A five-year delay in decommissioning may present an opportunity for PG&E to realize incremental improvements in fuel efficiencies or in the availability of alternative fuels for equipment and transportation used for decommissioning, as the delay would provide additional time for newer technologies to become commercially available. However, this may only be a minimal improvement as generally more time is needed to develop and implement new technologies.

### ***Geology, Soils, Paleontological Resources, and Coastal Processes***

This alternative would impact the same areas as the Proposed Project, and therefore, impacts to geology and soils (Impact GEO-1) under the Delayed Decommissioning Alternative would remain less than significant with mitigation. Impacts at the railyards would occur approximately five years later during the remainder of the decommissioning activities and would be less than significant, which is the same as the Proposed Project.

Impacts related to erosion (Impact GEO-2), paleontological resources (Impact GEO-3), and soils incapable of adequately supporting the use of septic tanks (Impact GEO-4) would be similar to the Proposed Project. Decommissioning activities under extended operations would be in the same locations as the Proposed Project, and soil conditions and paleontological sensitivity of soils would not change. Impacts would remain less than significant with mitigation.

Decommissioning activities would be identical to those identified for the Proposed Project, with the construction of three proposed buildings occurring simultaneously as extended operations. The buildings would be located in the same areas as the Proposed Project. As such, this alternative would result in the same impacts relating to coastal hazards (Impact GEO-5), nearshore sediment properties, characteristics, and processes (Impact GEO-6), coastal wave, current, and

circulation patterns (Impact GEO-7), increased effects associated with sea level rise (Impact GEO-8) as the Proposed Project. Impacts would remain less than significant with MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*), MM MBIO-3 (*Water Quality Monitoring Plan*), MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*), MM MBIO-5 (*Mooring Placement Habitat Survey*), and MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*).

### **Greenhouse Gas Emissions**

The timing of the GHG emissions would change under this alternative, with the emissions related to the three buildings occurring simultaneously with extended operations of the DCPD followed by the remainder of emissions occurring at least five or more years later than those from the Proposed Project. Like the Proposed Project, the unmitigated emissions would be significant, and MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*) would be required to reduce the effects of GHG emissions to a level that would not result in a significant impact on the environment (Impact GHG-1). The Delayed Decommissioning Alternative, like the Proposed Project would not conflict with GHG emission reduction plans, policies, or regulations (Impact GHG-2).

### **Hazardous and Radiological Materials**

The overall decommissioning activities do not change; therefore, impacts from non-radiological hazardous waste under the Delayed Decommissioning Alternative would be the same as the Proposed Project (Impacts HAZ-1 through HAZ-6). With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/Certification*) and MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), as well as MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*) and MM HWQ-2 (*Clean Marina Provisions*), non-radiological hazardous material impacts under this alternative would be less than significant. Impacts associated with triggering a wildland fire and exposing structures and people to significant risk (Impact HAZ-7) would remain less than significant with MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*).

Impacts relating to the potential release of radioactive materials (Impact HAZ-8), release of radioactive concentrations into the environment (Impacts HAZ-9 and HAZ-10), radiological groundwater contamination (Impact HAZ-11), and non-compliance with Federal regulations (Impact HAZ-12) under this alternative would be the same as the Proposed Project, as all activities involving radiological waste would be the same as the Proposed Project. At the end of decommissioning, the applicable NRC and USEPA standards relative to radiological materials, and radiation exposures to workers and the public through all media, would be identical to the Proposed Project. Therefore, radiological impacts under this alternative (Impacts HAZ-8 through HAZ-12) would be identical to the Proposed Project and would be less than significant.

### **Hydrology and Water Quality**

Decommissioning activities would be identical to those for the Proposed Project, with the construction of three proposed buildings occurring simultaneously as extended operations. Construction of the buildings would require compliance with the same water quality regulations, result in the same water quality impacts, use the same amount of water, and occur in the same

locations as the Proposed Project. Therefore, impacts related to water quality, water supply, soil erosion and sedimentation, and flood inundation would be the same as the Proposed Project, requiring the same soil and water management plans and mitigation measures to reduce impacts to less than significant.

### ***Land Use and Planning***

Decommissioning activities under the Delayed Decommissioning Alternative would be identical to the Proposed Project, with a few decommissioning activities occurring simultaneously with extended operations. The types of impacts that could occur to public and private land uses would remain the same, as the three buildings that would be constructed simultaneously with extended operations would be built in the same locations as the Proposed Project. Transport activities could temporarily limit public access along the proposed routes in a manner that is similar to the Proposed Project. As discussed for the Proposed Project, MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), and MM TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation.

This alternative would not affect agricultural lands or convert surrounding agricultural uses.

### ***Noise***

Construction of buildings to support decommissioning at the same time as continued DCP operations would result in a limited increase in traffic noise from construction workers and equipment and materials deliveries. Due to the limited nature of the construction activities prior to full decommissioning activities, impacts at the DCP site would be identical or less than those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project.

### ***Public Services and Utilities***

Under this alternative, decommissioning activities, such as the construction of three buildings, would occur simultaneously with extended operations. The VCT Warehouse, Security Warehouse, and temporary decommissioning office building would require the same need for fire and emergency response. Impacts relating to emergency services would remain less than significant with MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*), MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM TRA-1 (*Truck Transportation Outside of Peak Hours*), and MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*). Impacts relating to the relocation or construction of utility systems, water resources, wastewater capacity, solid waste generation, and solid waste regulations would remain less than significant.

### ***Recreation and Public Access***

Construction worker and truck trips associated with construction of the three identified buildings would occur at the same time as continued DCPD operations; however, truck trips would not be allowed during peak periods per MM TRA-1 (*Truck Transportation Outside of Peak Hours*). The additional construction workers and limited number of trucks transporting materials to and from the site for the three buildings would not require the use of heavy or oversize trucks, nor would there be substantial truck hauling given major excavation is not required for concrete slab and temporary structures. Therefore, construction truck trips would not result in substantial impacts to recreation and public access. As such, no new impacts related to public access and recreation would occur. Impacts related to the remainder/majority of decommissioning activities (Impacts REC-1 through REC-4) would essentially be identical to the Proposed Project and would be reduced to less than significant with mitigation.

### ***Transportation***

**Ground Transportation.** Construction worker and truck trip activity associated with construction of the three identified buildings would occur at the same time as continued DCPD operations. As such, there would be increased trips to and from the site during this interim period before the plant shuts down and full decommissioning ensues. Assuming up to 40 workers are on site daily for the construction of the three temporary buildings, in addition to the existing DCPD employees, this would represent a marginal increase in total daily vehicle miles traveled (VMT). The construction of each building is estimated to be up to eight months; assuming that construction of all three building simultaneously occurs by phase (for example, workers pouring foundations for all three buildings at the same time, but interior finish workers would not yet be on site), the period of maximum workers is likely to be a few months at most out of the five-year period. Although this would be an increase in total VMT, the increase is estimated to be three percent or less depending on whether the plant operations remain at the maximum level (1,400 daily employees) or less (as described in Chapter 4.16, observed data provided by the Applicant found less than 1,200 daily employees). Given the small and temporary increase in daily VMT, and 40 workers is within the daily variation of employees commuting to the site, this is a temporary and less than significant effect. Once the plant is shut down there would be a decrease in employees that would result in a decrease in VMT compared to the existing use, and no impact would occur (Impact TRA-1).

Impacts related to incompatible uses (Impact TRA-2) would be the same as the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*). The additional construction workers and limited number of trucks transporting materials to/from the site (cement trucks, flatbed trailers) would be limited and temporary and would not require the use of heavy or oversize trucks, nor would there be substantial truck hauling given major excavation is not required for concrete slab and temporary structures. These trips would occur over the course of up to eight months only during the five-year extended operations period and would not overlap with any of the decommissioning construction truck trips.

Existing DCPD operations and simultaneous construction of the VCT Warehouse, Security Warehouse, and office building would result in the same impacts as the Proposed Project related to inadequate emergency access (Impact TRA-3). Although this alternative would delay decom-

missioning activities, decommissioning of the DCPD would ultimately occur. Access to the site and reduction of the existing Owner Controlled Area in Phase 2 would eventually occur and include the construction of the blufftop road. Impacts related to inadequate emergency access would be similar to those under the Proposed Project. Although there would be a marginal increase in truck and worker activity to the site during the five-year period overlapping with extended operations, these activities are temporary and limited to likely a few days at most based on the planned building descriptions and the construction schedule and would likely fall within the daily variation of traffic to and from the DCPD site under existing conditions. The construction of the three buildings would not require additional specialty trucks or other activities that would require road closures or detours. MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*), MM TRA-7 (*Coordination with Harbormasters*), and MM TRA-8 (*Marine Surveyor Assessment*) would reduce impacts to less than significant.

**Marine Transportation.** Construction of buildings to support decommissioning at the same time as continued DCPD operations would not require the use of barges. Therefore, there would be no impacts related to marine vessel safety. The Delayed Decommissioning Alternative would not change the need or quantity of barge trips but would delay the schedule of these trips by five years.

### **Wildfire**

Under this alternative, decommissioning activities would be identical to the Proposed Project, with a few buildings being constructed earlier than the remainder/majority of decommissioning activities. Impacts to an adopted emergency response plan or emergency evacuation plan (Impact WF-1) and those associated with the exacerbation of wildfire risks (Impact WF-2 and Impact WR-3) would remain less than significant with mitigation. Additionally, impacts related to the exposure of people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes (Impact WF-4) would remain less than significant with mitigation.

## **5.4.8 Alternative 8: CSLC Full Removal Alternative**

### **5.4.8.1 Alternative 8 Description**

The CSLC has jurisdiction over the offshore portions of State-owned sovereign land adjacent to the DCPD site, which includes portions of the facility that extend onto filled and unfilled tidal and submerged lands of the Pacific Ocean. Facilities within the CSLC jurisdiction include the Discharge Structure, Intake Structure, Breakwaters, Marina (includes the boat dock and rip rap along the shore of the Marina), storage facility, office facilities, intake electrical room, intake maintenance shop, equipment storage pad, and spare tri-bar storage. Per the current lease (PRC 9347.1 Section 2, Paragraph 5(i)), upon expiration or termination of the lease the “Lessee [PG&E] must remove all or any Improvements, together with the debris and all parts of any such Improvements at its sole expense and risk, in accordance with a decommissioning and restoration plan under Section 3, Paragraph 13(a)(3), regardless of whether Lessee actually constructed or placed

the Improvements on the Lease Premises. Lessor may waive all or any part of this obligation in its sole discretion if doing so is in the best interests of the State” (CSLC, 2016).

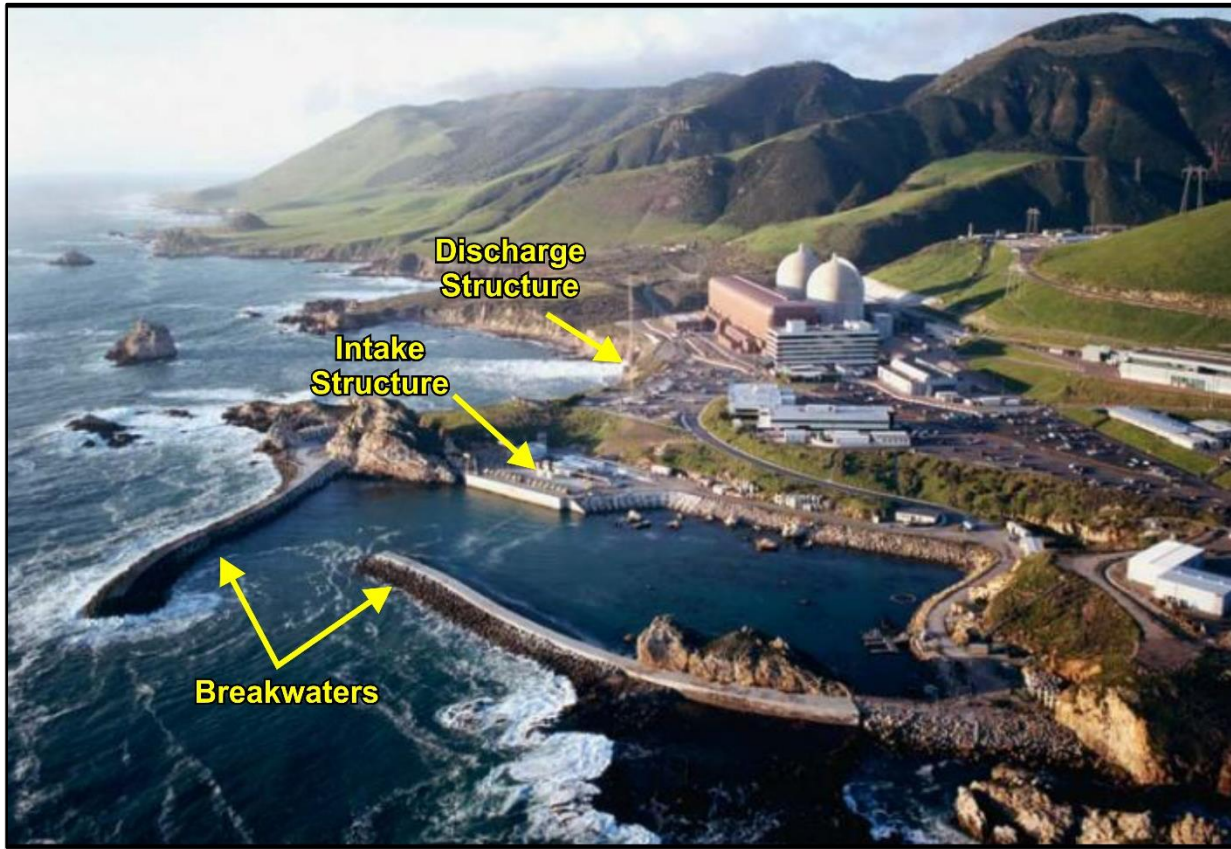
This alternative assumes no approval from CSLC is received for keeping the Breakwater and Marina, including the Intake Structure (closed and capped) and the boat dock, and PG&E is required to meet the existing lease requirements described above. In this case, all infrastructure within the CSLC jurisdiction would be removed. Repurposing of structures such as the Breakwater, Marina, boat dock, and/or Intake Structure would not occur. Decommissioning of infrastructure outside of the CSLC jurisdiction would be completed as described for the Proposed Project to achieve NRC license termination. This alternative represents the combination of PG&E’s Intake Structure Removal Alternative and Breakwater Removal Alternative (introduced in Sections 5.3.1 and 5.3.2, respectively).

Under the Proposed Project the Breakwaters would remain and the Intake Structure would be modified to load barges for bulk waste transport and otherwise retained to support future use of the Marina area. This alternative would result in all the same removals as the Proposed Project with the addition of (1) complete removal of the East and West Breakwaters around the Intake Cove, (2) complete removal of the Intake Structure,<sup>60</sup> and (3) removal of the Intake Structure water tunnels (includes a short portion of the Unit 1 and Unit 2 tunnels equating to approximately 327 feet [PG&E, 2022b – DR#7, Alternatives 1]), as well as any other infrastructure within the CSLC jurisdiction, up to the CSLC’s upland jurisdictional boundary and sealing of the tunnels with a concrete bulkhead. Unlike the Proposed Project, the area of the Discharge Structure would not be backfilled with quarry rock following removal. Preliminary plans for these removals are presented below. These components are also highlighted in Figure 5-11.

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<sup>60</sup> As part of the CPUC 2021 Nuclear Decommissioning Cost Triennial Proceedings, retention of the Intake Structure was identified as a cost savings measure for repurposing of plant facilities, with a decommissioning cost savings of approximately \$37.5 million (PG&E, 2021e).

Figure 5-11. Alternative 8 Components



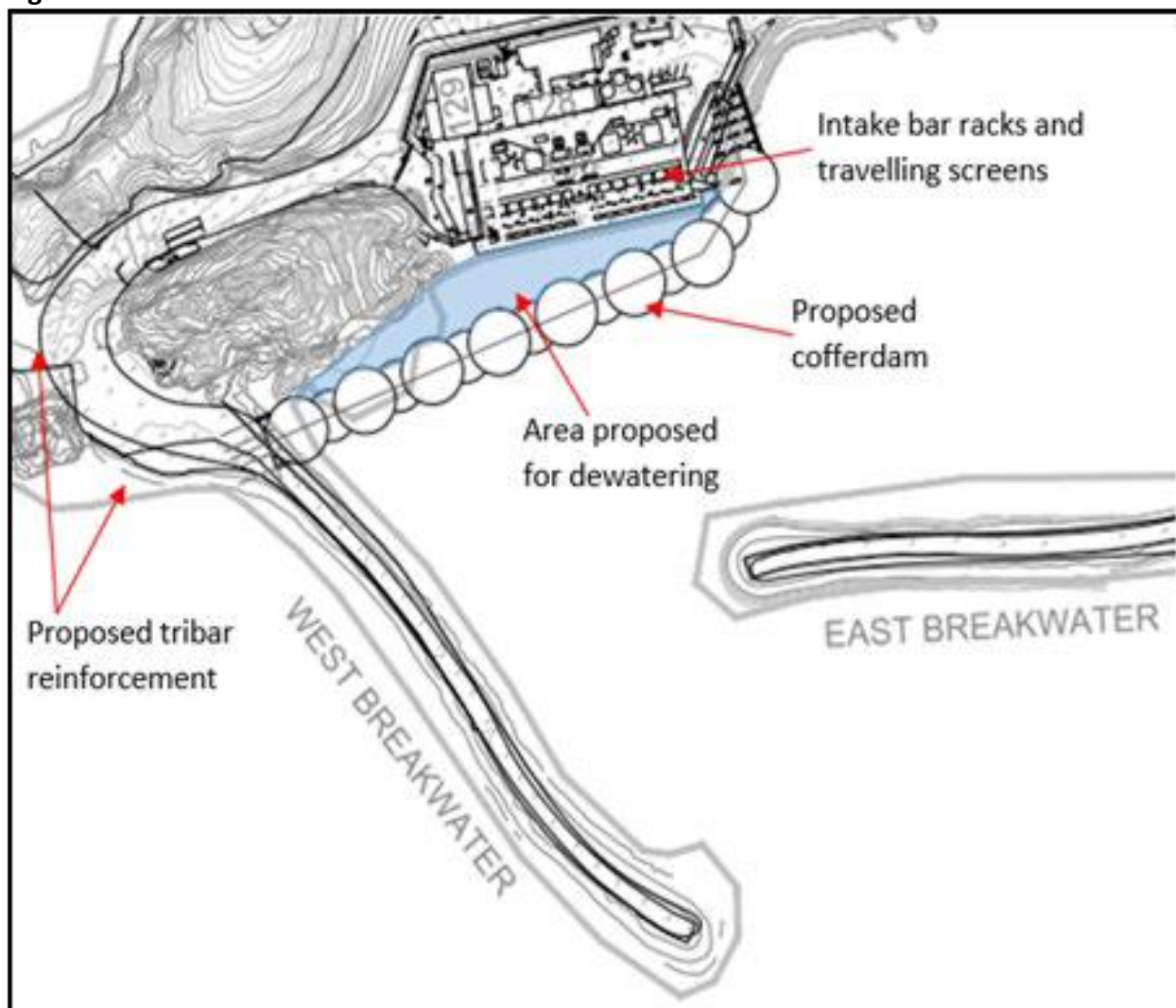
Source: PG&E, 2021b – Figure 4-3 (revised).

### ***Intake Structure Demolition***

The Intake Structure is a predominantly cast-in-place concrete structure with a conventional reinforcing bar system. The structure is approximately 240 feet (ft) long and is approximately 104 ft wide. The top of the concrete slab at the Intake Structure’s lowermost elevation is approximately 32 ft below mean sea level (MSL). Similar to the removal of the Discharge Structure discussed in Section 2.3.14 (see also Figure 2-23), the Intake Structure would also need to be isolated from the ocean using a cofferdam of similar design (see Figure 5-12). The cofferdam would be installed around the Intake Structure in a similar fashion to that of the Discharge Structure cofferdam. A bathymetric survey completed in 2020 indicated the presence of multiple large objects/debris inside the Intake Cove, some at or near the proposed cofferdam footprint (PG&E, 2021a – Appendix E, Hydrographic Survey Report). These objects may include debris from original construction, large rocks, and/or tribar formations from the past Breakwater failure. Prior to cofferdam construction, these objects may need to be dredged/removed. In addition, for added safety protection from large swells for the construction crews, equipment, and materials, additional tribars may be stacked along the West Breakwater.

The cofferdam would necessitate the transport of gravel from the Port of Long Beach to the DCPP site requiring an estimated 22 barges, requiring approximately 22 round trips (where each tug pulls one barge). The number of barges was calculated based on initial estimates of 85,071 tons of import material, with a carrying capacity of 4,000 tons per barge.

Figure 5-12. Intake Structure Cofferdam



Source: PG&E, 2021b – Figure 4-1.

Demolition of the Intake Structure is expected to occur during Phase 1 and would be accomplished through industrial demolition means and methods, including the use of demolition tools attached to track-mounted backhoes, articulated wheel loaders, and small-scale tool carriers. Demolition tools include hydraulic hoe-rams, hydraulic shears, concrete pulverizers, universal processors, various grapples and “thumbs,” trucks, and other such industrial tools. In general, the structure would be demolished in a top-down manner to the ocean floor, and the resultant debris moved to the waste processing area for further dispositioning. All systems and large components inside the Intake Structure would remain in their present locations and would be removed and downsized for disposal purposes during the demolition of the structure. It is anticipated that demotion of the Intake Structure would generate on the order of approximately 800,000 cubic feet (60,000 tons) of demolition debris, which is assumed to be shipped offsite by truck and/or barge.

Upon completion of the demolition, the area would be turned over for Final Site Restoration, including FSS (see Section 2.3.22), backfilling, and landscaping activities. The cofferdam would



remain in place after the Intake Structure is removed in support of barging operations to remove waste. The barges would anchor onto the cofferdam instead of having to construct a new mooring facility. Once the barging activities are complete, the cofferdam would be removed from the Intake Cove/marina, and the cofferdam and former Intake Structure area restored. The cofferdam removal process is essentially the reverse of the installation.

**Intake Structure Restoration**

The waterfront structure following demolition of the Intake Structure would consist of a gap in the natural sea front that would be one of the restoration-focus areas (see Figure 5-13). This gap would span approximately 500 feet between the Breakwater and the natural waterfront rocks.

**Figure 5-13. Intake Structure Restoration Area**



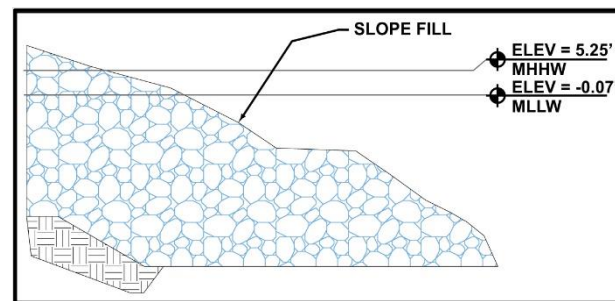
Source: PG&E, 2021b – Figure 4-2.

Following removal of the entire Intake Structure, the approximately 810,000-cubic foot void (based on a shored rather than sloped area) created by the removal of the Intake Structure may be left as-is (no backfill) or backfilled with natural rocky material to maintain stability and the natural profile of the bluff. This would be accomplished by importing quarry rock sourced from local quarries (i.e., Santa Catalina Island or San Francisco Bay) and moved to the site via tug and barge. The rock would be placed using a land-based crane equipped with rock tongs. Approximately 57,300 size D50 or 1-ton stones would be required to fill the void of the Intake Structure, as shown in Figure 5-14. This is based on preliminary design and may be modified as part of final design, which could include gradation of rock sizes and layering of different materials similar to the design of the Discharge Structure backfill (see Figure 2-27).

With the additional removal of the water tunnels within the CSLC jurisdiction, the backfill area would increase to an estimated 1,620,000-cubic feet requiring 114,600 1-ton stones (PG&E, 2022b – DR#7, Alternatives 1). With the general capacity of an ocean transport barge of

approximately 4,000 tons per barge (based on a 200-foot flat dock barge or hopper barge), a total of approximately 35 barge/tugboat trips would be required to transport rock from Santa Catalina Island. The quarry rock placed in the Intake Structure gap would provide new colonizable intertidal substrate supporting marine algae, invertebrates, and fishes. Following restoration activities, the cofferdam would be removed and the intertidal area behind the dam re-flooded.

**Figure 5-14. Intake Structure Removal with Full Backfill**



Source: PG&E, 2021a.

A total of 35 barges requiring approximately 35 round trips would be required for the import of quarry rock (22 barges for the backfill of the disturbed area for the Intake Structure, and another 13 barge trips for the backfill of the Intake Structure tunnel area).

### **Breakwater Demolition**

The Breakwaters extend from two points into the ocean, creating an area of calm surface water around the Intake Structure (see Figure 5-11). The Breakwaters are built from man-made interlocking concrete tribar (concrete block in a complex geometric shape weighing up to 37 tons, used to protect harbor walls from the erosive force of ocean waves), placed on top of stone base layers and concrete embedment ribs positioned on the ocean floor to secure the tribars in place (see Figure 5-15).

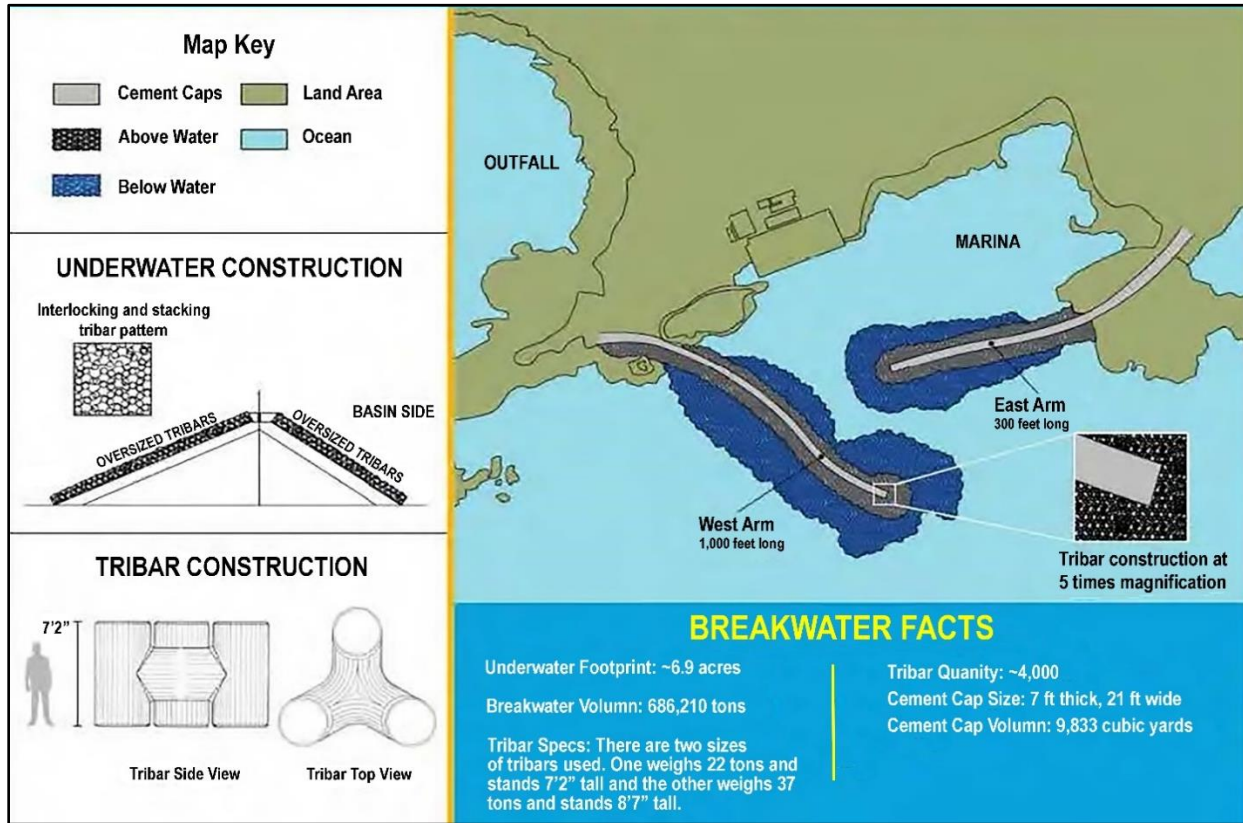
The approximate Breakwater material quantities, which have been estimated based on a conceptual design, are provided in Table 5-5. In short, the volume of material in the Breakwater is greater than all the clean concrete generated from demolition of the other elements of the DCPD site (455,000 tons of clean concrete – see Section 2.3.16.3, *Recycled Concrete*).

Under this alternative, during Phase 2, the East and West Breakwaters would be demolished and removed by either a land-based or marine approach.

If a land-based approach is used, a track mounted excavator fitted with the appropriate demolition tool would first demolish the cap slab and the top section of tribar of each Breakwater down to an elevation slightly above MSL. Demolition debris would be loaded into dump trucks using articulated wheel loaders as the demolition progresses from the shore end of each Breakwater to the terminal point at the end. At that point, the track-mounted excavator would be used with similar tooling to reach below the water line and demolish the concrete tribar of each Breakwater starting at the terminal end of each Breakwater, working its way back to the shoreline. During this process, a long reach excavator would be fitted with a concrete pulverizer (e.g., a hoe-ram) designed for underwater demolition to break up the cast in place concrete ribs from the ocean floor. A track-mounted crane with either a drag line or a clam shell bucket would be used to remove the concrete rubble and bottom layers of stone material from below the waterline, which

would be loaded into articulated wheel loaders<sup>61</sup> and transferred directly to the waste processing facility. It is assumed demolition debris would be shipped offsite by truck.

**Figure 5-15. Breakwater Components**



Source: PG&E, 2021b – Figure 4-4 (revised).

If a marine approach is used, a track mounted excavator would be situated on a work barge and fitted with an extended boom, underwater hoe-ram, and either a clamshell bucket or a dragline attached to a lattice boom crane would be used. The work barge excavator would remove the concrete rubble, tribars, and stone that comprise the two Breakwaters. Due to the ocean conditions at DCPP, this barge may be a “jack-up” barge capable of supporting itself on the ocean floor with legs that jack up the barge portion above the water surface. The material that is removed would be transferred into a material barge for transport via a tugboat for disposal. An estimated 172 barges requiring 86 round trips (assumes each tug pulls 2 barges) would be required.

**Table 5-5. Estimated Breakwater Material Quantities**

Material	Cubic Yards	Cubic Feet	Tons	Pounds
<b>West Breakwater</b>				
Tribars	31,838	859,626	61,620	123,240,000
Concrete	4,800	129,600	9,720	19,440,000

<sup>61</sup> Depending on where the equipment is situated, a barge may need to be utilized for demolition debris and transported via a tugboat for disposal (see also marine approach).

**Table 5-5. Estimated Breakwater Material Quantities**

<b>Material</b>	<b>Cubic Yards</b>	<b>Cubic Feet</b>	<b>Tons</b>	<b>Pounds</b>
Stone	157,806	4,260,762	383,469	766,937,160
<b>TOTALS</b>	<b>194,444</b>	<b>5,249,988</b>	<b>454,809</b>	<b>909,617,160</b>

**East Breakwater**

<b>Material</b>	<b>Cubic Yards</b>	<b>Cubic Feet</b>	<b>Tons</b>	<b>Pounds</b>
Tribars	14,203	383,473	27,363	54,726,000
Concrete	4,825	130,275	9,771	19,541,250
Stone	63,909	1,725,543	155,299	310,597,740
<b>TOTALS</b>	<b>82,937</b>	<b>2,239,291</b>	<b>192,432</b>	<b>384,864,990</b>

**Injected Concrete**

<b>Material</b>	<b>Cubic Yards</b>	<b>Cubic Feet</b>	<b>Tons</b>	<b>Pounds</b>
Concrete	18,100	488,700	36,653	73,305,000

Source: PG&E, 2021b – Table 4-1.

The marine contractor’s resources would consist of equipment such as a construction barge with the lattice boom crane and track-mounted excavator, material barges, ocean-going tug for tending the material barges, ocean-going tug to pull and reset anchors mooring the construction crane barge and the material barges, and a crew boat to shuttle the crew from the marine contractor’s place of business to and from the DCPP site.

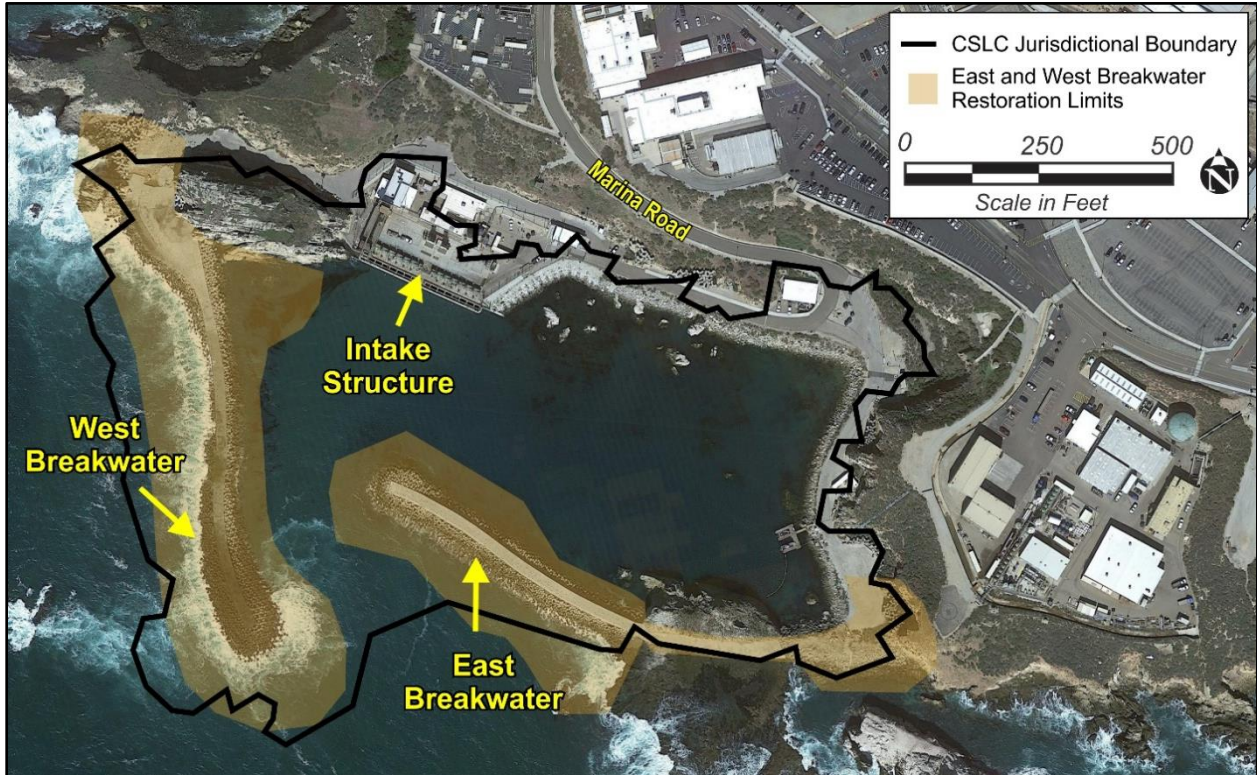
In both the land-based and marine approaches, the possibility exists that the demolition equipment would not be capable of breaking up the injected concrete embedment ribs poured directly on the ocean floor. For this reason, the Project may require the use of underwater explosives, if allowed by the CSLC and other regulatory agencies. To support the use of explosives, underwater divers would be required to place charges in strategic locations to break up the concrete. In the land-based approach, a clamshell bucket or a dragline situated on the partially removed Breakwater would be used to remove the concrete rubble, which would be loaded into barges for transport via tugboat for disposal or onto articulated wheel loaders and transferred directly to the waste processing facility. In the marine approach, the clam shell bucket or dragline would be situated on the work barge, and the material transferred into the material barge.

**Breakwater Restoration**

Following removal of the Breakwaters, restoration of the sea floor under the existing Breakwaters and associated waterfront areas would be required. The goal of this portion of the marine restoration would be to reestablish the subtidal community to a level commensurate with the natural sea floor along the California central coast and similar to that found in the DCPP vicinity. Prior to Breakwater removal, a detailed hydrographic survey delineating the sea floor and Breakwater toes would be conducted in addition to a subtidal marine survey of the biological habitat and community at and around the Breakwater. Together, the hydrographic and marine survey would provide insight into the level of site restoration necessary.

Removal of both Breakwaters under this alternative would be completed with no remaining structures on the sea floor. The East and West Breakwaters cover an area of approximately 6.9 acres (see Figure 5-16). The East Breakwater extends from the natural bluff to a small pinnacle island, and then to the north. Removal of this structure would restore the island to natural rock face and provide water flow into the Intake Cove from the south as well as the north.

**Figure 5-16. East and West Breakwater Restoration Areas**



Source: PG&E, 2021b – Figure 4-5 (revised).

#### 5.4.8.2 Environmental Impact Analysis

The CSLC has discretion regarding the end-state requirements for improvements on State-owned lands, including requiring full removal of all structures within the CSLC’s jurisdiction. Therefore, it was determined that this alternative should be analyzed at the same level of detail as the Proposed Project. The impacts of the CSLC Full Removal Alternative compared to the Proposed Project are described below. Because most of the decommissioning activities related to removal of onshore structures and post-decommissioning new facility operations would be the same as described for the Proposed Project, the analysis of Alternative 8 focuses on offshore impacts during Phases 1 and 2. Additionally, since the Marina would be dismantled as part of Alternative 8, no impacts related to future offshore improvements and operations of the Marina would occur and are therefore not discussed.

#### ***No Change in Impacts***

For some environmental issue areas, implementation of the CSLC Full Removal Alternative would not result in any change in impacts compared to those of the Proposed Project. This is primarily because impacts under this alternative would only result in changes associated with additional

removals along the shoreline and offshore. For the issue areas described below, impacts associated with this alternative would be generally the same as described for the Proposed Project:

- **Aesthetics.** Onshore changes and related aesthetic impacts under this alternative would be the same as the Proposed Project for Impacts AES-2 and AES-4. As with the Proposed Project, permanent removal of onshore structures would notably improve the coastal viewshed from existing conditions under this alternative. The aesthetic impact from the offshore activities is discussed below (Impacts AES-1 and AES-3).
- **Biological Resources – Terrestrial.** Impacts to terrestrial biological resources would not differ from the Proposed Project as onshore decommissioning activities would continue in the same manner as the Proposed Project. As with the Proposed Project, this alternative would not significantly contribute to adverse cumulative impacts related to terrestrial biological resources.
- **Cultural Resources – Cultural Resources.** Impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable with the implementation of mitigation, which is the same as the Proposed Project; however, impacts under this alternative would be more severe because of the increased ground disturbance.
- **Cultural Resources – Built Environment.** With no designated or eligible historic-age resources within the Proposed Project site, this alternative would result in no impacts to built environment resources (Impact CUL-1), which is the same as the Proposed Project.
- **Cultural Resources – Tribal Cultural Resources.** Impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable with the implementation of mitigation, which is the same as the Proposed Project; however, impacts under this alternative would be more severe because of the increased ground disturbance.
- **Energy.** The CSLC Full Removal Alternative would generally result in the same energy impacts as the Proposed Project, as this alternative would include additional demolition activities that would be handled similarly to the Proposed Project. Energy use would be minimized by limiting unnecessary use of construction equipment and vehicles, and the total energy use compared to the percent of total diesel volume produced by California’s refineries would be less than 0.1 percent. Therefore, Impact EN-1 for the CSLC Full Removal Alternative would be less than significant (Class III). Additionally, like the Proposed Project, there are no plans or policies that relate specifically to energy efficiency during decommissioning activities, so this alternative would also not conflict with federal, state, or local plans for renewable energy development or energy efficiency and impacts would be less than significant.
- **Geology, Soils, Paleontological Resources, and Coastal Processes.** Activities for the CSLC Full Removal Alternative only differ from the Proposed Project as they relate to decommissioning nearshore and offshore. Onshore changes under this alternative would be the same as the Proposed Project. All infrastructure within the CSLC jurisdiction, including the Breakwater, Marina, and Intake Structure would be removed. Like the Proposed Project, impacts related to geology, soils, seismic hazards, and paleontology would be less than significant. Therefore, Impacts GEO-1, GEO-2, GEO-3, and GEO-4 are the same as the Proposed Project and the same mitigation measures would apply. Impacts GEO-5 through GEO-8 related to coastal processes

are discussed below. As with the Proposed Project, this alternative would not result in any cumulative impacts related to geology, soils, and paleontological resources.

- **Hazardous and Radiological Materials.** With the greater volume of waste generated from more structures being removed, the severity of non-radiological material impacts increases, but overall, the non-radiological hazardous material impacts under this alternative would be the same as the Proposed Project and remain less than significant (Impacts HAZ-1 through HAZ-7). At the end of decommissioning, the applicable NRC and USEPA standards relative to radiological materials and radiation exposures to workers and the public through all media, are identical. Therefore, radiological impacts under this alternative (Impacts HAZ-8 through HAZ-12) would be the same as the Proposed Project and less than significant.
- **Noise.** Under the CSLC Full Removal Alternative, decommissioning activities would generate twice the amount of waste materials of the Proposed Project and substantially increase the work performed within the ocean. This would cause both truck haul route noise and underwater noise to increase (for underwater noise see *Biological Resources – Marine*). By doubling the hauling of the waste materials generated by the decommissioning activities, the truck haul route noise would increase by 3 dBA. However, the predicted truck haul route noise contribution is extremely low at all sensitive receptors compared with the existing ambient noise level as indicated in the Proposed Project analysis, and the 3 dBA increase would not change the impact analysis by more than 0.9 dBA and maintain an overall increase of 2.0 dBA or less (see Appendix H). As such, there would be no change in Impacts NOI-1 through NOI-3.
- **Land Use and Planning.** While the extent of offshore decommissioning activities is greater under this alternative than the Proposed Project, the types of impacts that could occur to public and private land uses would remain the same. Transport activities could temporarily limit public access along the proposed routes in a manner that is similar to the Proposed Project. As discussed for the Proposed Project, MM TRA-1 through MM TRA-5 would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation. Impact LUP-2 would remain no impact, as there are no activities under this alternative that would extend into agricultural lands.
- **Public Services and Utilities.** Onshore changes and related impacts to public services and utilities under this alternative would be the same as the Proposed Project and remain less than significant at the DCPD site (Impacts PSU-1, PSU-2, PSU-3, PSU-4, and PSU-6). Impacts at the railyard sites would be the same for Impacts PSU-1 through PSU-6. Offshore activities would differ from the Proposed Project, and the impacts at the DCPD facility related to solid waste capacity (PSU-5) are discussed below.
- **Wildfire.** Wildfire impacts (Impacts WF-1 through WF-4) under this alternative are the same as described for the Proposed Project. Decommissioning activities that pose a wildfire risk would occur onshore, where vegetation, slope, and topography combine to form wildfire risk factors. The additional components of this alternative would occur along the shoreline and offshore areas that would not pose a risk of wildfire. Impacts related to exacerbating wildfire risks due

to slope and other factors, exacerbating fire risk due to the installation or maintenance of infrastructure, and exposing people or structures to post-fire slope instability would all remain less than significant. With implementation of MMs TRA-1 (*Truck Transportation Outside of Peak Hours*), TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), PSU-1 (*Plan Tracking and Reporting Form*), and PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), impacts to emergency response and evacuation would be reduced to a level of less than significant.

The environmental issue areas with differences in impacts compared to the Proposed Project are discussed below.

### ***Aesthetics***

#### **Impact AES-1: Adversely affect a scenic vista (Class III: Less than Significant).**

##### **Phase 1**

Additional barging would occur under this alternative to remove waste from the Breakwater demolition and Intake Structure restoration. Although some of the barging activity would be visible from Avila Beach, activities would be temporary and would not create a permanent impact to a scenic resource. The presence of the barges would be short-term and would be consistent with existing views of commercial and recreational fishing and boating. This alternative would not install new structures or other permanent features within Port San Luis Harbor that would alter the character of the Port. Impacts to a scenic vista would remain less than significant (Class III).

##### **Railyards**

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impact to scenic vistas.

##### **Phase 2**

Under Alternative 8 the Breakwaters would be demolished and removed during Phase 2 utilizing either a land-based or marine approach. Similar to the Proposed Project, any land-based activities within the DCPD site would not impact a designated scenic vista. If a marine approach is used, barging activity may be visible from Avila Beach. However, marine-based demolition and restoration activities would be temporary. Furthermore, Alternative 8 would not install new structures or other permanent features within Port San Luis Harbor that would alter the character of the Port. Impacts to a scenic vista would remain less than significant (Class III).

**Mitigation Measures for Impact AES-1.** No mitigation measures are required.



**Impact AES-3: Substantially degrade the visual character or quality of the site and its surroundings (Class III: Less than Significant).**

**Phase 1**

Under this alternative, if a marine approach is used, a “jack-up” barge may be installed on the ocean floor for the breakwater demolition. A cofferdam would also be installed temporarily for the intake structure removal. Additional barging would occur under this alternative to support breakwater demolition and for the intake structure restoration. These activities would be visible from views both onshore and from the coast, resulting in adverse but less-than-significant impacts (Class III). Activities would be temporary and would not create a permanent change to the visual character or quality of the coastline.

**Railyards**

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impact to the visual character of the railyards.

**Phase 2**

Following the completion of this alternative, which would permanently remove all structures and restore the area to a more natural state, the coastal viewshed would be notably improved from existing conditions. The long-term improvements from Phase 2 activities would be beneficial to the DCPP site’s visual character and quality. The visual quality would be restored close to natural conditions and no adverse impact would occur.

**Mitigation Measures for Impact AES-3.** No mitigation measures are required.

Cumulative Impacts

Cumulative effects from onshore activities under this alternative would be identical to the Proposed Project. Regarding offshore activities, this alternative would increase the number of barges required for waste removal and site restoration as well as the length of time for which those barges would operate. However, none of these barging activities would install new structures or permanent features, and aesthetic impacts from the presence of these barges would be temporary. Any potential overlap of this alternative’s barge activities with the construction of other offshore cumulative projects would not contribute to an adverse aesthetic impact that is cumulatively considerable (Class III).

***Air Quality***

**Impact AQ-1: Conflict with or obstruct implementation of an applicable air quality plan (Class III: Less than Significant).**

**Phase 1**

A project could be inconsistent with the applicable air quality management plan or attainment plan if it causes population and/or employment growth or growth in vehicle-miles traveled in excess of the growth forecasts included in the attainment plan. The CSLC Full Removal Alternative

would still be a decommissioning activity that would not contribute to population or employee growth at the DCPD site. The workforce for decommissioning would be temporary. Also, all decommissioning activities would comply with the applicable rules, regulations, and programs. This alternative, like the Proposed Project, would have less-than-significant impacts related to local air quality plan conformity (Class III).

**Railyards**

Use of the railyards would continue under Alternative 8. As with the Proposed Project, impacts regarding conflicts with an applicable air quality plan would be less than significant (Class III).

**Phase 2**

Under Alternative 8, activities would continue to comply with the applicable rules, regulations, and programs, and impacts would be less than significant (Class III).

**Mitigation Measures for Impact AQ-1.** No mitigation measures are required.

**Impact AQ-2: Result in a cumulatively considerable net increase of any criteria air pollutant for which the Project region is in nonattainment (Class II: Less than Significant with Mitigation).**

**Phase 1**

The CSLC Full Removal Alternative would increase air quality pollutant emissions at the DCPD site (San Luis Obispo County Air Pollution Control District [SLOCAPCD]), as well as in the jurisdictions of the Santa Barbara County Air Pollution Control District (SBCAPCD), Ventura County Air Pollution Control District (VCAPCD), and Mojave Desert Air Quality Management District (MDAQMD) for the transportation of materials off site. The NOx emissions from the Proposed Project are already in exceedance of the SLOCAPCD threshold, so the additional emissions from the CSLC Full Removal Alternative would cause the exceedance to be greater (see Table 5-6). Similarly, the quarterly threshold for NOx + ROG would still be in exceedance as is for the Proposed Project, but greater (see Table 5-7). Alternative 8 diesel particulate matter (DPM) emissions would be in exceedance, contrary to the Proposed Project. Implementation of MM AQ-1 to achieve NOx and ROG emission reductions via a Decommissioning Activity Management Plan (DAMP), and MM AQ-2 to provide funding for off-site mitigation of all emissions in excess of the quarterly thresholds (offsetting up to 22.28 tons of ozone precursors and 0.55 tons of DPM per quarter), would ensure that the effects of the Phase 1 portion of the CSLC Full Removal Alternative would be mitigated to below the applicable thresholds of 2.5 tons per quarter of NOx + ROG, and 0.13 tons per quarter of DPM. This impact would be less than significant with mitigation (Class II).

**Table 5-6. Alternative 8, DCPD Site, Phase 1 Maximum Unmitigated Daily Emissions (pounds per day)**

Phase	NOx + ROG	PM10	PM2.5	CO	SOx
Alt 7 Additional Emissions, DCPD Site	282.63	12.76	9.12	216.63	0.29
Proposed Project Phase 1, DCPD Site	370	28.50	13.61	463.37	82.21
Total Alt 8 Emissions, DCPD Site	652.63	41.26	22.73	680.00	82.50

**Table 5-6. Alternative 8, DCPD Site, Phase 1 Maximum Unmitigated Daily Emissions (pounds per day)**

Phase	NOx + ROG	PM10	PM2.5	CO	SOx
SLOCAPCD Threshold	137	-	-	-	-
Threshold Exceeded? (Yes/No)	Yes	N/A	N/A	N/A	N/A

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.

Acronyms: NOx = nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SOx = sulfur oxides.

**Table 5-7. DCPD Site, Phase 1 Maximum Unmitigated Quarterly Emissions (tons per quarter)**

Phase	NOx + ROG	Exhaust PM10 or DPM	Fugitive PM10
Alt 8 Additional Emissions, DCPD Site	12.86	0.59	0.53
Proposed Project Phase 1, DCPD Site	11.92	0.09	0.52
Total Alt 8 Emissions, DCPD Site	24.78	0.68	1.05
SLOCAPCD Threshold	2.5	0.13	2.5
Threshold Exceeded? (Yes/No)	Yes	Yes	No

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.

Acronyms: NOx = nitrogen oxides, ROG = reactive organic gases, PM10 = course particulate matter, DPM = Diesel Particulate Matter.

Emissions for rail and truck trips in other air districts were calculated and added to the maximum daily emissions for Phase 1 of the Proposed Project, as they would occur at the same time (see Table 5-8). The worst-case scenario for the SMVR-SB site was used for the SBCAPCD reported emissions. Like the Proposed Project, none of these air districts would experience an exceedance of the SBCAPCD thresholds. As such, the increase in criteria pollutant emissions in SBCAPCD, VCAPCD, and MDAQMD would be less than significant (Class III).

**Table 5-8. Worst Case Rail Phase 1 Unmitigated Emissions in Other Air Districts (pounds per day)**

Air District	NOx	VOC	PM10	PM2.5	CO	SOx
Santa Barbara County Air Pollution Control District (SBCAPCD)	7.42	0.83	0.54	0.22	24.70	0.10
Ventura County Air Pollution Control District (VCAPCD)	0.58	0.02	0.17	0.01	0.21	0.00
Mojave Desert Air Quality Management District (MDAQMD)	2.47	0.06	0.71	0.05	0.88	0.00
<b>SBCAPCD Threshold</b>	25	25	80	80	-	-
<b>Threshold Exceeded? (Yes/No)</b>	No	No	No	No	N/A	N/A

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.

Acronyms: NOx = nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SOx = sulfur oxides.

## Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, impacts regarding a substantial increase in criteria air pollutants would be less than significant (Class III).

## Phase 2

Under Alternative 8, Phase 2 decommissioning activities would be similar to the Proposed Project, with the exception that the East and West Breakwaters would be demolished and removed by either a land-based or marine-based approach during Phase 2. The additional emissions from Alternative 8 would cause Phase 2 emissions to exceed the daily SLOCAPCD NO<sub>x</sub> + ROG threshold (see Table 5-9). Additionally, with the additional emissions attributed to Breakwater removal, impacts for Phase 2 would exceed the SLOCAPCD threshold for quarterly NO<sub>x</sub> and ROG<sub>s</sub> by 11.32 tons per quarter, and Exhaust PM<sub>10</sub> by 0.91 tons per quarter (see Table 5-10).

**Table 5-9. Alternative 8, DCPD Site, Phase 2 Maximum Unmitigated Daily Emissions (pounds per day)**

Phase	NO <sub>x</sub> + ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	SO <sub>x</sub>
Alt 8 Additional Emissions, DCPD Site	286.49	22.53	10.51	244.99	0.39
Proposed Project Emissions	28.42	32.94	8.38	85.91	0.25
Total Alt 8 Emissions including Phase 2 of Proposed Project	314.91	55.47	18.89	330.90	0.64
SLOCAPCD Threshold	137	-	-	-	-
Threshold Exceeded? (Yes/No)	Yes	N/A	N/A	N/A	N/A

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.

Acronyms: NO<sub>x</sub> = nitrogen oxides, VOC = volatile organic compounds, PM<sub>10</sub> = course particulate matter, PM<sub>2.5</sub> = fine particulate matter, CO = carbon monoxide, SO<sub>x</sub> = sulfur oxides.

**Table 5-10. DCPD Site, Phase 2 Maximum Unmitigated Quarterly Emissions (tons per quarter)**

Phase	NO <sub>x</sub> + ROG	Exhaust PM <sub>10</sub> or DPM	Fugitive PM <sub>10</sub>
Alt 8 Additional Emissions, DCPD Site	13.04	1.02	0.96
Proposed Project Phase 2, DCPD Site	0.78	0.02	0.54
Alt 8, DCPD Site	13.82	1.04	1.50
SLOCAPCD Threshold	2.5	0.13	2.5
Threshold Exceeded? (Yes/No)	Yes	Yes	No

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.

Acronyms: NO<sub>x</sub> = nitrogen oxides, ROG = reactive organic gases, PM<sub>10</sub> = course particulate matter, DPM = Diesel Particulate Matter.

Implementation of MM AQ-1 to achieve NO<sub>x</sub> and ROG emission reductions via a Decommissioning Activity Management Plan (DAMP), and MM AQ-2 to provide funding for off-site mitigation of all emissions in excess of the quarterly thresholds (offsetting up to 11.32 tons of ozone precursors and 0.91 tons of DPM per quarter), would ensure that the effects of the CSLC Full Removal Alternative would be mitigated to below the applicable thresholds of 2.5 tons per quarter of NO<sub>x</sub> + ROG, and 0.13 tons per quarter of DPM. For Alternative 8, Phase 2 impacts would be less than significant with mitigation (Class II).

**Mitigation Measures for Impact AQ-2.** See Section 4.2 for full text of measures.

**AQ-1 Implement a Decommissioning Activity Management Plan (DAMP)**

**AQ-2 Provide Funding for Off-site Mitigation of Equipment Emissions**

**Impact AQ-3: Expose sensitive receptors to substantial pollutant concentrations (Class II: Less than Significant with Mitigation).**

### **Phase 1**

The analysis of criteria pollutant emissions under Impact AQ-2 finds that Phase 1 emissions of ozone precursors would exceed the SLOCAPCD thresholds. Implementing the recommended mitigation measures for Impact AQ-2 would require PG&E to implement a decommissioning activity management plan (MM AQ-1) and to achieve off-site emissions reductions (MM AQ-2) to offset the effects of ozone precursor emissions. As such, the Phase 1 emissions of ozone precursors would be offset to ensure that they do not exceed the emissions thresholds, and sensitive receptors in the region would not be exposed to substantial pollutant concentrations of ozone and associated health impacts (Class II).

For sensitive receptors nearest to the DCPD site, the Proposed Project's Phase 1 on-site demolition, marine vessels, and truck travel results in an excess cancer risk of 1.28 chances in one million at the Maximum Exposed Individual at a Residential location (see Table 4.2-15) in the community of Avila Beach (PG&E, 2022e). The CSLC Full Removal Alternative includes the demolition activities of the Proposed Project as well as the demolition of the Intake Structure and Breakwaters. The pollutant concentrations that would be in addition are of similar magnitude to the Proposed Project. Due to the distance to the nearest sensitive receptors, the excess cancer risks would not exceed 10 excess cancer cases in a million for all receptors. This represents a less-than-significant impact for all receptors for the CSLC Full Removal Alternative activities at the DCPD site (Class III).

### **Railyards**

The most exposed off-site worker receptors near the SMVR-SB site would have 0.62 chances in one million for the Proposed Project and noncancer chronic health hazards for the Proposed Project scenario would be less than applicable thresholds (PG&E, 2022e). The addition of demolition activities from the CSLC Full Removal would not create levels that would exceed any threshold of significance for adverse health effects and would not be greater than 10 excess cancer cases in a million for all receptors as waste would be shipped offsite by truck or barge. This represents a less-than-significant impact for all receptors for the CSLC Full Removal Alternative activities at the SMVR-SB (Class III).

### **Phase 2**

Under Alternative 8, Phase 2 decommissioning activities would be similar to the Proposed Project, with the exception that the East and West Breakwaters would be demolished and removed by either a land-based or marine based approach during Phase 2. The analysis of criteria pollutant emissions under Impact AQ-2 shows that Phase 2 emissions of ozone precursors and DPM would exceed the SLOCAPCD thresholds. Implementing the recommended mitigation

measures for Impact AQ-2 would require PG&E to implement a decommissioning activity management plan (MM AQ-1) and to achieve off-site emissions reductions (MM AQ-2) to offset the effects of ozone precursor and DPM emissions. As such, the Phase 2 emissions of ozone precursors and DPM would be offset to ensure that they do not exceed the emissions thresholds, and sensitive receptors in the region would not be exposed to substantial pollutant concentrations of ozone and associated health impacts (Class II).

**Mitigation Measures for Impact AQ-3.** See Section 4.2 for full text of measures.

**AQ-1      Implement a Decommissioning Activity Management Plan (DAMP)**

**AQ-2      Provide Funding for Off-site Mitigation of Equipment Emissions**

**Impact AQ-4: Create objectionable odors affecting a substantial number of people (Class III: Less than Significant).**

### **Phase 1**

Typical objectional odors during construction include ammonia, chlorine, and hydrogen sulfide. Alternative 8 would not create these pollutants in measurable quantities, although they are expected to be quantifiably greater than the Proposed Project. Diesel equipment exhaust could be a potential source of odor during any of the decommissioning activities, although only for people immediately adjacent to the source. The additional decommissioning activities associated with Alternative 8 at the DCPD site would not create objectionable odors that would affect a substantial number of people resulting in a less-than-significant impact (Class III).

### **Railyards**

Use of the railyards would continue under Alternative 8. As with the Proposed Project, impacts regarding objectionable odors would be less than significant (Class III).

### **Phase 2**

Under Alternative 8, Phase 2 decommissioning activities would be similar to the Proposed Project, with the exception that the East and West Breakwaters would be demolished and removed by either a land-based or marine based approach during Phase 2. Alternative 8 Phase 2 activities would not create objectionable odors in measurable quantities, although they are expected to be quantifiably greater than the Proposed Project. Diesel equipment exhaust could be a potential source of odor during any of the decommissioning activities, although only for people immediately adjacent to the source. The additional decommissioning activities associated with Breakwater demolition in Alternative 8 at the DCPD site would not create objectionable odors that would affect a substantial number of people resulting in a less-than-significant impact (Class III).

**Mitigation Measures for Impact AQ-4.** No mitigation measures are required.

### Cumulative Impacts

Under this alternative, the potential for cumulative impacts on air quality would be greater than the Proposed Project due to the greater level of demolition and associated transportation

activities for waste removal. As such, Alternative 8 impacts related to increasing criteria pollutant emissions thereby exceeding thresholds (Impact AQ-2) and exposing sensitive receptors to substantial pollutant concentrations (Impact AQ-3) would be mitigated to levels that would not be cumulatively considerable for Phase 1 and 2 activities. Conformity with air quality plans (Impact AQ-1) and odor impacts (Impact AQ-4) would continue to be not cumulatively considerable.

**Biological Resources – Marine**

**Impact MBIO-1: Destroy or degrade marine habitat(s) during decontamination and dismantlement activities including habitat of state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat (Class I: Significant and Unavoidable).**

**Phase 1**

In addition to the Discharge Structure removal activities occurring in Phase 1, Alternative 8 includes removal of the Intake Structure and restoration of that area.

**Intake Structure Removal and Restoration.** Intertidal and subtidal habitats around the Intake Structure would be directly impacted during cofferdam installation/removal, dewatering, and Intake Structure removal, and would result in the temporary loss of benthic habitat and mortality to all sessile species, species with limited mobility, and species trapped within the cofferdam area for the duration of the activity. The estimated duration of the Intake Structure removal activity is assumed to be similar to the Discharge Structure removal activity (i.e., 38 months), starting in Phase 1 and continuing into Phase 2.

The intertidal and shallow subtidal habitat immediately upcoast of the Intake Structure where the cofferdam would join the shoreline consists of artificial tribars and rock, while downcoast of the Intake Structure where the cofferdam would join the shoreline, the intertidal and shallow subtidal habitat consists of rock and sand (Figure 5-17). A total of 22 red abalone (*Haliotis rufescens*) were observed upcoast of the Intake Structure during a 2020 survey (PG&E, 2021b). Unlike black abalone, red abalone are not protected under the FESA. Downcoast of the Intake Structure, the area was dominated by non-coralline crust and coralline crust, in addition to the red alga *M. papillatus*. Common invertebrates included limpets, barnacles, and crabs (PG&E, 2021b). No black abalone, surfgrass, or the invasive seaweed *S. horneri* were observed in the area adjacent to the Intake Structure; however, eelgrass and kelp have been reported. This habitat also represents black abalone and leatherback turtle critical habitat (PG&E, 2021b).

Table 5-11 summarizes the habitat types that would be affected within the various Project footprints (i.e., cofferdam footprint, dewatered area, anchorage area, and restoration area). Approximately 1.36 acres of intertidal and subtidal marine habitat would be directly impacted from cofferdam construction (this includes a 25-foot buffer on the offshore edge) (Figure 5-17), with the majority consisting of sand (0.82 acres), mud and sand (0.41 acres), and rock (0.26 acres) (Table 5-11). The dewatered area consists of approximately 0.48 acres of mixed sand and rocky habitat (Table 5-11). Therefore, cofferdam construction would directly impact approximately 1.84 acres (1.36+0.48) of both water column and benthic marine habitat, some of which would

be considered EFH HAPC (0.60 acres of giant kelp and 0.004 acres of eelgrass [see Figure 4.4-4]), as well as approximately 1.35 acres of black abalone critical habitat, and 1.47 acres of leatherback turtle critical habitat (Figure 5-17).

Following removal of the Intake Structure, approximately 0.29 acres of 1-ton quarry rock would be placed within the void to not only maintain stability and the natural profile of the bluff, but also to create new intertidal and subtidal rocky habitat (Figures 5-14 and 5-17). While these impacts would be temporary, there would be a direct impact to marine habitat (EFH and black abalone critical habitat) associated with the cofferdam and Intake Structure removal, as well as loss of marine organisms that would be considered significant. Implementation MM MBIO-3 (*Water Quality Monitoring Plan*), MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*), MM MBIO-5 (*Preconstruction Survey for Black Abalone*), and MM MBIO-6 (*Marine Habitat Restoration and Monitoring Plan*) would reduce impacts to marine habitats to the extent feasible; however, because of the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4 and MBIO-5), impacts would remain significant and unavoidable (Class I). ALT MM MBIO-14 (*Marine Habitat Restoration and Monitoring Plan – Intake Structure*) would also reduce impacts to habitat during removal and restoration of the Intake Structure. Note that after the Intake Structure and cofferdam are removed, and the area restored (Intake Structure quarry rock fill), the area would provide approximately 0.29 acres (see Table 5-11) of habitat for black abalone and other marine organisms.

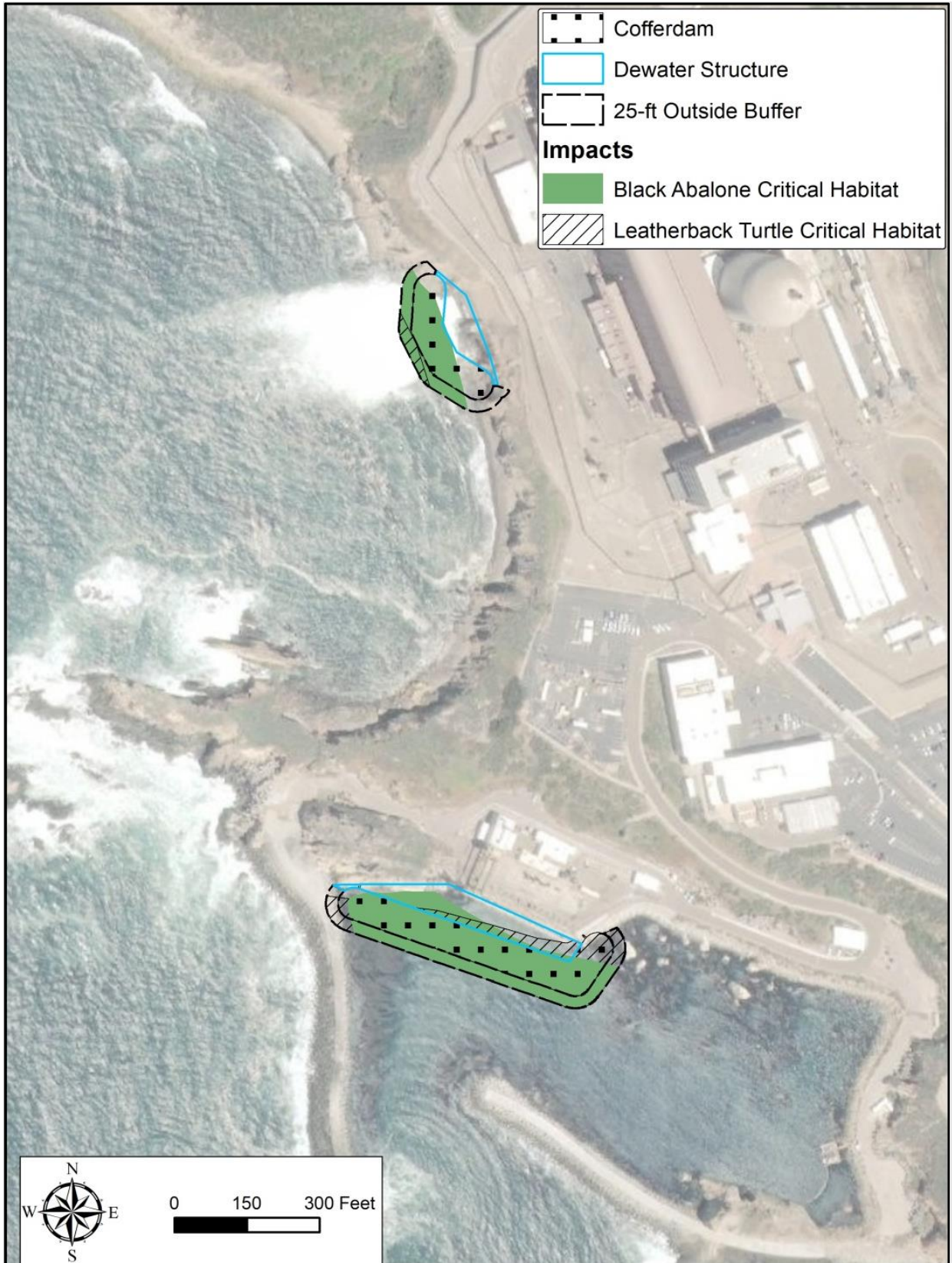
**Table 5-11. Intake Structure Removal Habitat Impact Summary**

Location	Area	Habitat Type	Area (m <sup>2</sup> )	Acres
Intake Cove	Coffer Dam w/ 25' Buffer	Artificial tribars	304	0.08
		Cobble	30	0.01
		Mixed Rock, Cobble, and Mud	376	0.09
		Mostly Mud	479	0.12
		Mud and Sand	1,476	0.36
		Rocks	557	0.14
		Sand (Shell Gravel)	2,265	0.56
		Total	5,486	1.36
Intake Cove	Dewatered Area	Cobble	195	0.05
		Mud and Sand	191	0.05
		Rocks	472	0.12
		Sand (Shell Gravel)	1,075	0.27
		Total	1,949	0.48
Intake Cove	Coffer Dam w/ 25' Buffer Dewatered Area	Kelp	2,419	0.60
Intake Cove	Coffer Dam w/ 25' Buffer	Eelgrass	16	0.004
Intake Cove	Barge Footprint (Breakwater Removal – Marine Approach)	Mixed Rock, Cobble, and Mud	1,553	0.39
Intake Cove	Intake Structure Fill	Quarry Rock Fill*	+1,167	+0.29
<b>Critical Habitat</b>				
Intake Cove	Coffer Dam w/ 25' Buffer Dewatered Area	Black Abalone Critical Habitat	5,472	1.35
Intake Cove	Coffer Dam w/ 25' Buffer Dewatered Area	Leatherback Turtle Critical Habitat	5,967	1.47

\*Fill will create new rocky habitat.



Figure 5-17. Critical Habitat Impact Map for CSLC Full Removal Alternative



Source: PG&E, 2021c.

PG&E developed a Turbidity Monitoring Plan for decommissioning activities associated with the demolition and removal of the Discharge Structure and restoration activities, including placement and removal of the cofferdam (PG&E, 2022g). The Turbidity Monitoring Plan calls for monitoring of receiving water to ensure turbidity levels are acceptable based on permit requirements. MM MBIO-3 (*Water Quality Monitoring Plan*) would require PG&E to update the Turbidity Monitoring Plan to include permit requirements for monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that Intake Structure activities were not contributing to conditions that could degrade sensitive marine habitats. If water quality monitoring detected persistent and elevated levels of turbidity, BMPs would be implemented to avoid turbidity impacts to receiving waters and adjacent habitats. MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*) would require PG&E to develop a plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with cofferdam construction and removal. The plan would require tasks such as a pre-construction habitat and biological survey, an approach to relocate marine life, agency authorization and permitting, and dewatering controls to minimize turbidity, and inspection schedule to ensure compliance. MM MBIO-5 (*Preconstruction Survey for Black Abalone*) would require PG&E to conduct a pre-construction survey for black abalone, and if black abalone are discovered, an approach to relocate them to predetermined areas located outside the immediate impact area. MM MBIO-14 (*Marine Habitat Restoration and Monitoring Plan – Intake Structure*) would require updating the Marine Habitat Restoration and Monitoring Plan to include specific methods, procedures, goals, and performance standards for the Intake Structure restoration effort.

Another direct impact associated with the Intake Structure removal activity includes potential degradation of marine habitat due to temporary anchoring of vessels and barges in the Intake Cove, as would be done under the Proposed Project. While no anchoring plan has been developed for the Intake Structure Removal, the analysis assumes that the conceptual anchoring plan for waste transportation activity would be implemented (see Section 2.3.19.2, *Waste Transportation*, and Figure 2-31). While barges and tugboats would not use subtidal moorings or anchors, which would eliminate potential direct impacts to sensitive rocky, kelp bed, or eelgrass habitat, the storage of tugs and barges may result in shading impacts that could potentially affect kelp or eelgrass beds reducing the quality or quantity of these habitats. Both canopy kelp and eelgrass are perennial species with an active growing season that extends from the spring through the fall and are designated EFH HAPC. While no shading impacts would be expected for kelp since kelp plants can have large surface canopies and are less susceptible to shading impacts than seagrasses or other types of submerged marine vegetation, eelgrass beds may be affected by barge shading and any impact would be considered significant. Implementation of MM MBIO-1 (*Eelgrass Monitoring and Mitigation Plan*) and MM MBIO-2 (*Marine Safety and Anchoring Plan*) would reduce the potential for impacts to eelgrass to a less-than-significant level (Class II). PG&E developed a Marine Safety and Anchoring Plan (PG&E, 2022f) for decommissioning activities associated with the demolition and removal of the Discharge Structure and restoration activities, which includes information regarding operational limits, mooring systems, and conceptual mooring locations; however, the plan but does not include specifics for anchoring and mooring in the Intake Cove. MM MBIO-2 (*Marine Safety and Anchoring Plan*) would require updating the Marine Safety and Anchoring Plan to include a pre-construction seafloor habitat mapping survey

in the Intake Cove to delineate eelgrass beds and to develop an anchoring system that would avoid impacts to eelgrass and other sensitive habitats from Project-related actions.

Impacts may also occur to approximately 1.47 acres of leatherback turtle critical habitat due to the inadvertent release of hazardous materials such as fuel or oil from construction equipment and support vessels (Table 5-11). However, implementation of ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) and MM MBIO-8 (*Oil Spill Response Plan*) would reduce the impacts to leatherback turtle critical habitat to a less-than-significant level (Class II). ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal Plan*) would require updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2021b) to ensure that no harassment of marine mammals or other marine life occurs during Breakwater and Intake removal activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/authority of marine wildlife observers (MWOs); exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures. MM MBIO-8 (*Oil Spill Response Plan*) would require updating PG&E's Oil Spill Response Plan (PG&E, 2022h) to include at a minimum, a description of the Project activity and geographic area; pre-work planning needed to prepare for a possible nearshore oil spill; initial response procedures including agency notifications and onsite team communications; how the waste from the oil spill will be handled and disposed of; and a description of how the area will be decontaminated and how any contaminated materials will be handled. With implementation of the recommended mitigation measures, impacts to marine habitats would be reduced to a less-than-significant level (Class II).

### **Railyards**

Use of the railyards would continue under Alternative 8. The railyards are not located in or near a marine area. Therefore, no impact would occur.

### **Phase 2**

**Breakwater Removal and Restoration.** The Breakwaters cover approximately 6.9 acres, with approximately 5.95 acres of marine intertidal and subtidal habitat (i.e., approximately 0.95 acres of upland habitat), and are constructed of concrete tribars. Intertidal surveys noted a high diversity and abundance of red algal species, with giant kelp present along the East Breakwater but not present along the West Breakwater (PG&E, 2021b). The most common invertebrates along both Breakwaters included barnacles and the limpets, and along the East Breakwater, the tube snails *Serpulorbis squamigenus* and *Spirobranchus spinosus*, and the chiton *Mopalia muscosa* were more frequently observed than they were at the West Breakwater (PG&E, 2021b). Fourteen red abalone were observed in the intertidal zone along the inside of the East Breakwater, while no abalone were observed along the riprap or on the West Breakwater. One black abalone was found during the survey on the East Breakwater and three black abalone were found on the West Breakwater. All four abalone were observed on the intertidal transects on the outside of the Intake Cove (PG&E, 2021b).

Subtidal surveys along the Breakwaters also recorded a high diversity and abundance of red algal species, as well as kelps such as *Laminari setchellii* and *Nereocystis luetkeana* which were more common on the exposed offshore sides of the Breakwaters (PG&E, 2021b). Invertebrates found

on all transects included the sessile tube snail *S. squamigerus* and purple urchins. Bat stars were more common on the inshore than offshore transects, while the stalked tunicate *Styela montereyensis* and other tunicate species were more commonly observed in the offshore areas. A total of 29 fish taxa was recorded during the Breakwater surveys, with blue rockfish and striped surfperch being the most commonly observed fishes. Other commonly observed fishes observed included the black and yellow rockfish, olive rockfish, and California sheephead. Seniorita and juvenile striped surfperch were only observed on the outside of the Breakwaters, while blackeye gobies were only observed inside of the Breakwaters (PG&E, 2021b). Forty-seven (47) red abalone were observed along the Breakwaters with most located on the inshore face of the West Breakwater (PG&E, 2021b).

Compared to the Proposed Project, the CSLC Full Removal Alternative would have considerably greater impacts to marine habitat primarily due to the loss of rocky intertidal and subtidal substrata and their respective communities provided by the Breakwaters. While the removal of the Breakwaters would create approximately 6.9 acres of open water habitat, a more significant impact would be the loss of approximately 5.95 acres of rocky intertidal and subtidal substrate and associated communities including canopy kelp HAPC, and the intertidal and shallow subtidal area to a depth of approximately –18 ft MLLW that would be considered black abalone habitat (Table 5-12 and Figure 5-18). No approach has been developed to identify feasible options to compensate for injuries related to black abalone and black abalone habitat loss due to Breakwater removal. Implementation of ALT MM MBIO-12 (*Black Abalone Restoration Plan*) would reduce the impact to the extent feasible. ALT MM MBIO-12 would require PG&E to prepare a Black Abalone Restoration Plan that would identify and develop feasible options to compensate for injuries related to black abalone habitat loss due to Breakwater removal, with the goal of successfully establishing black abalone populations on restored or new rocky habitat created through implementation of this plan. The plan shall also identify goals, methods, procedures, and performance standards for the restoration effort.

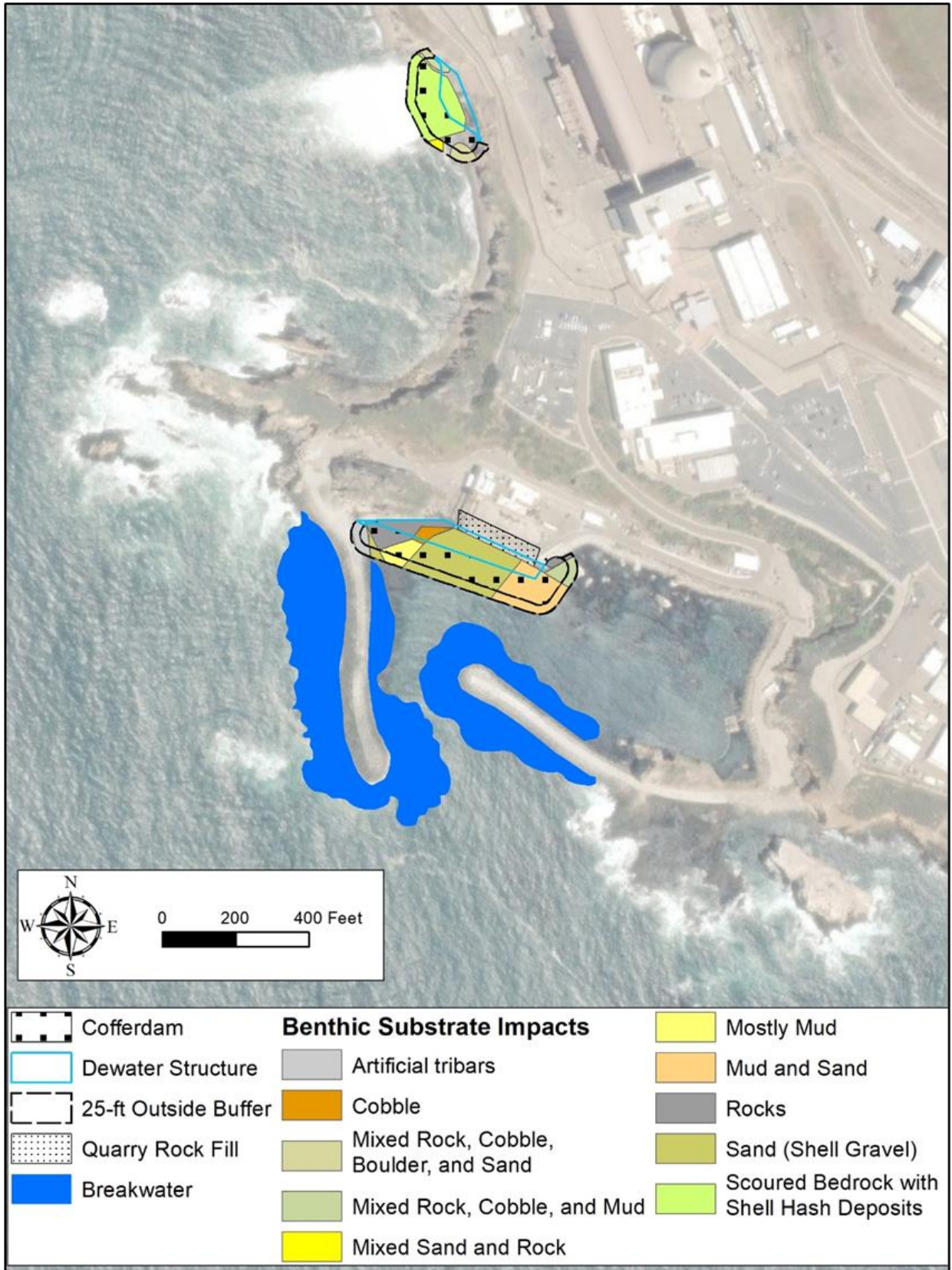
**Table 5-12. Intake Cove Breakwater Removal Habitat Impact Summary**

Location	Area	Habitat Type	Area (m <sup>2</sup> )	Acres
Breakwater Removal and Restoration				
Intake Cove	Submerged Portion of Breakwater	Removal of Artificial tribars*	-24,090	-5.95
Intake Cove	Creation of Open Water Habitat	Open Water	+27,935	+6.9
Intake Cove	Potential Loss with Breakwater Removal**	Eelgrass	-835	-0.21

\*Removal will result in loss of rocky habitat.

\*\*Breakwater removal may result in conditions unsuitable for eelgrass.

Figure 5-18. Habitat Impact Map for CSLC Full Removal Alternative



Source: PG&E, 2021c.

Two approaches may be used to remove the Breakwaters (i.e., land-based or marine-based), but regardless of the approach, it would result in the resuspension of sediment and increased turbidity that would impact water quality and potentially result in reducing primary production for marine flora such as algae, kelp, and eelgrass, and possibly smothering sensitive rocky habitats. The duration of the Breakwater Removal and Restoration Activity has been estimated to take approximately four years. Therefore, while turbidity may be short-term and temporary given the tidal exchange within the Intake Cove, the potential long-term nature of the activity could result in impacts to sensitive rocky habitat and eelgrass beds. Similarly, the restoration effort which entails placing approximately 100 to 500 D50 (1-ton) quarry rock in the Intake Cove would also result in the resuspension of sediment and increased turbidity. This would be considered a significant impact but would be reduced to a less-than-significant level (Class II) through implementation of MM MBI0-1 (*Eelgrass Monitoring Plan*) and MM MBI0-3 (*Water Quality Monitoring Plan*). MM MBI0-1 (*Eelgrass Monitoring Plan*) would require surveys conducted in conformance with the California Eelgrass Mitigation Policy (CEMP) which would delineate eelgrass beds in the Intake Cove, and while not specified in the CEMP, surveys could also delineate rocky habitat. Once habitats were identified, actions could be taken to avoid impacts to these sensitive habitats. MM MBI0-3 (*Water Quality Monitoring Plan*) would require PG&E to update the Turbidity Monitoring Plan to include permit requirements for monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that Project-related activities were not contributing to conditions that could degrade sensitive marine habitats. If water quality monitoring detected persistent and elevated levels of turbidity or depressed dissolved oxygen concentrations, BMPs would be implemented to avoid turbidity impacts to receiving waters and adjacent habitats.

If a marine-based removal approach is used, another direct impact associated with the Breakwater removal activity includes potential degradation of marine habitat due to anchoring of vessels and barges. Spuds, anchors, and chains used to moor vessels and barges may damage or degrade rocky reef habitat and canopy kelp (both EFH HAPC), including black abalone critical habitat (see Figure 4.4-2). These impacts would be considered significant; however, implementation of ALT MM MBI0-13 (*Marine Safety and Anchoring Plan – Breakwater Removal*) would reduce the impacts to a less-than-significant level (Class II). PG&E has developed a Marine Safety and Anchoring Plan for the Discharge Cove (PG&E 2022b), but ALT MM MBI0-13 (*Marine Safety and Anchoring Plan – Breakwater Removal*) would require updating the Marine Safety and Anchoring Plan for the Breakwater removal activity and would include a pre-construction sea-floor habitat mapping survey to delineate EFH HAPC (i.e., rocky reef and canopy kelp) and to develop an anchoring system that would avoid impacts from Project-related actions.

One indirect impact associated with removing the Breakwaters would be exposing the marine habitats that are currently sheltered to the open ocean. While it is expected that the biological community would eventually resemble adjacent areas, one unique community that is currently present within the Intake Cove is eelgrass. Eelgrass most commonly occurs on unconsolidated soft-bottomed substrate in bays, estuaries, and relatively protected open coastal areas, and it is likely that removal of the Breakwaters would result in conditions that would not be suitable to support eelgrass (i.e., exposure to open ocean conditions that would result in loss of soft bottom substrate where it currently exists, as well as exposure to increased water motion). Baseline eelgrass surveys conducted in 2020 estimated approximately 0.21 acres of eelgrass in the Intake

Cove (Table 5-12 and Figure 4.4-4); however, the surveys were not in compliance with CEMP and therefore, possibly underestimated actual coverage (PG&E, 2021b). Any impact to eelgrass beds is considered significant but would be reduced to a less-than-significant level (Class II) through implementation of MM MBIO-1 (*Eelgrass Monitoring Plan*). MM MBIO-1 would require surveys conducted in conformance with the CEMP which offers specific guidelines for monitoring, as well as appropriate responses and mitigation measures for activities that threaten eelgrass vegetated habitats, and any loss of eelgrass would require mitigation at a 1.2:1 ratio (NOAA, 2014).

**Mitigation Measures for Impact MBIO-1.** See Section 4.4 for full text of measures.

- MBIO-1 Eelgrass Monitoring Plan**
- MBIO-2 Marine Safety and Anchoring Plan**
- MBIO-3 Water Quality Monitoring Plan**
- MBIO-4 Cofferdam Installation and Dewatering Plan**
- MBIO-5 Preconstruction Survey for Black Abalone**
- MBIO-6 Marine Habitat Restoration and Monitoring Plan**
- MBIO-8 Oil Spill Response Plan**

**ALT MBIO-12 Black Abalone Restoration Plan.** Prior to commencement of Breakwater removal activities within the DCCP Intake Cove, the Applicant or its designee shall prepare a Black Abalone Restoration Plan (Plan). The Plan shall be submitted to the County, CSLC, CCC, CDFW, and NOAA Fisheries for review and approval at least 90 days prior to Breakwater removal activities. The Plan shall identify and develop feasible options to compensate for injuries related to black abalone habitat loss due to Breakwater removal, with the goal of successfully establishing black abalone populations on restored or new rocky habitat created through implementation of this Plan. Relocation of individual black abalone present on the Breakwater is addressed under MM MBIO-5. The Plan, at a minimum, shall include:

- Preparation of a NOAA Habitat Equivalency Analysis to determine the quantity of restoration required to compensate for injuries related to habitat loss due to Breakwater removal (this may include rocky intertidal or shallow subtidal habitat or both). The analysis shall include:
  - Survey of the distribution and abundance of black abalone on the Breakwaters; and
  - Use of historical and current black abalone data to develop target restoration density.
- Preparation of a Feasibility Analysis for possible restoration options, that may include habitat creation (i.e., creation of new rocky intertidal and shallow subtidal habitat), habitat restoration (i.e., enhancement of existing rocky intertidal and shallow subtidal habitat), abalone transplantation, and/or a

combination of the above. Additional elements of the feasibility analysis shall include:

- Identification of potential areas for habitat creation, restoration, or abalone transplantation, including constraint and cost analyses;
  - Identification of approach(es) to relocate and transplant black abalone; and
  - Identification of compensatory or out-of-kind mitigation options (e.g., funding other abalone transplanting efforts or rocky reef restoration).
- Preparation of a Compliance Monitoring Program (methods, materials, analysis, reporting) that includes a schedule with milestones, which is updated and tracked throughout program implementation. Additional elements of the compliance monitoring program shall include:
- Establishment of success criteria in consultation with NOAA Fisheries and CDFW as a Trustee Agency.

**ALT MBIO-13 Marine Safety and Anchoring Plan – Breakwater Removal.** Prior to Breakwater removal, the Applicant or its designee shall update their Marine Safety and Anchoring Plan (PG&E, 2022f) to avoid impacts to EFH HAPC such as rocky reef habitat, canopy kelp, or eelgrass beds from the Breakwater Removal Activity. The plan would be developed following the analysis of a pre-construction seafloor habitat and bathymetric survey. Additionally, a confirmation or ground truthing survey shall be conducted to ensure that all pre-determined anchor locations are positioned in sedimentary habitats and avoids impacts to rocky substrata, kelp, or eelgrass beds. The plan may also include the types and sizes of vessels to be anchored, anchoring and mooring systems that may be utilized, and general anchoring procedures. The plan shall be submitted to County, CCC, CSLC, CDFW, and NOAA Fisheries for review and approval prior to the commencement of Project activities. Documentation of the mooring system installation shall be submitted to the County within 30 days of installation to document compliance with this measure.

**ALT MBIO-14 Marine Habitat Restoration and Monitoring Plan – Intake Structure.** During Phase 1 and prior to Intake Structure Removal and Restoration, the Applicant or its designee shall update the Marine Habitat Restoration and Monitoring Plan to outline the restoration and subsequent monitoring associated with the restoration of the Intake Structure. The plan shall provide specific methods, procedures, goals, and performance standards, and is expected to be an extension of the current marine monitoring program (PG&E, 2021b). A Marine Habitat Restoration and Monitoring Plan was developed for the Project (PG&E, 2021b), but the plan requires updating as it is dependent on the final restoration design (see MM MBIO-7). The plan shall be reviewed and approved by various agencies including, at a minimum, the County, CSLC, CCC, CDFW, and NOAA Fisheries prior to restoration activities.



**ALT MBIO-15 Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal.** Prior to Breakwater and Intake Removal, the Applicant or its designee shall develop a Marine Mammal and Sea Turtle Mitigation and Monitoring Plan to assess and minimize impacts associated with the Breakwater Removal and Intake Removal activities. The plan shall include numerical modeling and development of exclusion zones, and a monitoring program to avoid impacts and to ensure no harm or harassment to marine mammals or other sensitive species. A draft plan was developed for the Project (PG&E, 2021b), but a final plan shall be developed and approved by the County as part of NOAA Fisheries, CDFW, and USFWS consultation under the Marine Mammal Protection Act, and shall include:

- A description of the work activities including vessel size, activity types and locations, and Project schedule.
- A risk analysis (likelihood and consequence) of effects to marine mammals and sea turtles based on the most activity plans.
- For nearshore activities, the qualifications, number, location, and roles/authority of dedicated marine wildlife observers (MWOs). MWO tasks may include:
  - Establishing an exclusion zone for eliminating risk of impacts to marine wildlife.
  - Keeping a daily monitoring log detailing the marine mammals or sea turtles observed during the day and Project activities undertaken during those observations.
  - Digital photographs taken during the monitoring.
  - Training of crew, recording survey data, and providing a final report on the results of the monitoring.
  - Instructing vessel operators to observe low vessel speeds within the Discharge and Intake Coves and always maintain awareness of marine wildlife.
- For offshore activities, the distance, speed, and direction transiting vessels shall maintain when in proximity to a marine mammal or turtle, as follows:
  - Vessel operators shall make every effort to maintain a distance of at least 300 feet from sighted whales, and 150 feet or greater from sea turtles or smaller cetaceans whenever possible.
  - When small cetaceans are sighted while a vessel is underway (e.g., bow-riding), vessel operators shall attempt to remain parallel to the animal’s course. When paralleling whales, vessels shall operate at a constant speed that is not faster than the whales’ and shall avoid excessive speed or abrupt changes in direction until the cetacean has left the area.
  - When safety permits, vessel speeds shall not exceed 11.5 miles per hour (10 knots) when mother/calf pairs, groups, or large assemblages of cetaceans (greater than five individuals) are observed near an underway vessel. A

single cetacean at the surface may indicate the presence of submerged animals in the vicinity; therefore, prudent precautionary measures, such as decreasing speed and avoiding sudden changes in direction, should be exercised. The vessel shall route around the animals, maintaining a minimum distance of 300 feet.

- Support vessels (i.e., barge tows) shall not cross directly in front of migrating whales, other threatened or endangered marine mammals, or sea turtles.
- Vessels shall not separate female whales from their calves or herd or drive whales. If a whale engages in evasive or defensive action, support vessels shall drop back until the animal moves out of the area.
- For pile driving activities, measures shall be incorporated to reduce underwater noise and minimize potential impacts to fish, sea turtles, and marine mammals. The following noise reduction measures include:
  - Vibratory pile driving shall be used to the extent practicable.
  - During construction activities involving pile driving or extraction, the contractor, under direction of a qualified biologist, shall conduct monitoring within the applicable Zone of Influence (ZOI). The contractor shall halt in water pile driving or extraction work if any observations of marine mammals or sea turtles are made within the defined ZOI. Work shall not re-commence until it has been determined that the mammal(s) or turtle(s) have left the area or have not been seen on the surface within the ZOI for a period of 15 minutes.
  - A soft start or “ramp-up” procedure shall be utilized to provide nearby wild-life with an opportunity to respond by avoiding the sound source and vacating the area. When performing vibratory pile driving, the contractor shall commence work with a few short pulses followed by a 1-minute period of no activity, prior to commencing full activities. The purpose of this activity is to encourage turtles or marine mammals in the area to leave the project site prior to commencement of work. The contractor, under the direction of a qualified biologist, shall then commence monitoring as described above to determine if turtles or mammals are in the area. This process should be repeated if pile driving ceases for a period of greater than an hour.
- Observation recording procedures and reporting requirements in the event of an observed impact to marine wildlife. Collisions with marine wildlife shall be reported promptly to the NOAA Fisheries, CDFW, CCC, CSLC, and US Fish and Wildlife Service (USFWS) pursuant to each agency’s reporting procedures.
- A final report summarizing daily reports and any actions taken shall be submitted to the County, NOAA Fisheries, CDFW, CCC, CSLC, and USFWS within 60 days following completion of monitoring.

**Residual Impacts.** Due to the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4, MBIO-5), impacts associated with Discharge Structure and Breakwater

removal and restoration activities in Phases 1 and 2 of Alternative 8 and the potential to destroy or degrade marine habitat(s) would remain significant and unavoidable (Class I).

**Impact MBIO-2: Harm or disturb marine special-status invertebrate, fish, reptile, bird, or mammal (Class I: Significant and Unavoidable).**

Both the Intake Structure Removal and Restoration Activities (Phase 1) and Breakwater Removal and Restoration (marine-based approach) (Phase 2) include increased vessel activity. Despite the increase, impacts to special-status species such as marine mammals, sea turtles, fish, and seabirds would be similar (e.g., ship strikes, behavioral avoidance) to the Proposed Project, and therefore, the same mitigation measure would apply (MM MBIO-15, *Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*).

### Phase 1

**Intake Structure Removal and Restoration.** The only special status species that may occur in the vicinity of the Intake Structure and potentially affected by Intake Structure Removal and Restoration is black abalone. Both intertidal and subtidal habitat around the Intake Structure would be directly impacted during cofferdam installation, dewatering, and removal, and would result in the temporary loss of benthic habitat and mortality to all sessile species, species with limited mobility, and species trapped within the cofferdam area. If black abalone were present around the Intake Structure during Project implementation, they may be crushed or killed during cofferdam installation and dewatering. This impact to black abalone would be considered significant. Implementation of MM MBIO-5 (*Preconstruction Survey for Black Abalone*) would reduce the impacts to the extent feasible. MM MBIO-5 (*Preconstruction Survey for Black Abalone*) would require PG&E to conduct a pre-construction survey for black abalone, and if black abalone are discovered, an approach to relocate them to predetermined areas located outside the immediate impact area. However, because of the uncertainty associated with the success of relocation of black abalone, impacts to marine special-status species would remain significant and unavoidable (Class I).

### Railyards

Use of the railyards would continue under Alternative 8. The railyards are not located in or near a marine area. Therefore, no impact would occur.

### Phase 2

**Breakwater Removal and Restoration.** The removal of the Breakwaters would result in the direct loss of all sessile species or species with limited mobility. The only special-status invertebrate known to occur on the Breakwaters is black abalone which have been observed on both the West and East Breakwaters (PG&E, 2021b – Marine Biological Resources Assessment). Although not protected under the FESA, other species of interest such as red abalone have also been observed on the Breakwaters. This impact to both black and red abalone would be considered significant. Implementation of MM MBIO-5 (*Preconstruction Survey for Black Abalone*) and ALT MM MBIO-16 (*Breakwater Removal Plan*) would reduce the impacts to the extent feasible. MM MBIO-5 (*Preconstruction Survey for Black Abalone*) would require PG&E to conduct a pre-construction

survey for black abalone, and if black abalone are discovered, an approach to relocate them to predetermined areas located outside the immediate impact area. ALT MM MBIO-16 (*Breakwater Removal Plan*) would require PG&E to develop a plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with Breakwater Removal. The plan shall include tasks such as a pre-construction habitat and biological survey, an approach to relocate marine life, and water quality controls to minimize turbidity, and inspection schedule to ensure compliance. However, because of the uncertainty associated with the success of relocation of black abalone, impacts would remain significant and unavoidable (Class I).

The Breakwaters also serve as a haul-out area for California sea lions and harbor seals, while southern sea otters regularly occur within the Intake Cove (PG&E, 2021b). The removal of the Breakwaters may result in injury or death of marine mammals (discussed in ALT MBIO-3) and is expected to affect behavior and displace marine mammals, which would be considered a significant impact. Implementation of ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would reduce the impacts to a less-than-significant level (Class II), and would require updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2021b – Marine Wildlife Contingency Plan) to address noise impacts and develop exclusion zones for the potential use of demolitions, ensure that no harassment of marine mammals or other marine life occurs during Breakwater Removal activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/authority of MWOs; exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures.

#### **Mitigation Measures for Impact MBIO-2.**

**MBIO-5**      **Preconstruction Survey for Black Abalone.** See Section 4.4.

**ALT MBIO-15** **Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal**

**ALT MBIO-16** **Breakwater Removal Plan.** Prior to Breakwater Removal, the Applicant or its designee shall develop a Breakwater Removal Plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with the Breakwater Removal Activity. The plan, at a minimum shall include an organizational chart, a pre-construction habitat and biological survey, an approach to relocate marine life, controls to minimize turbidity, water quality monitoring that shall comply with any Clean Water Act permit requirements, and inspection schedule to ensure compliance. The plan shall be submitted to the County, CSLC, CDFW, and NOAA Fisheries for review and approval prior to the commencement of Project activities. Results of the habitat and biological survey, animal relocation efforts, and water quality monitoring shall be submitted to the County, NOAA Fisheries, and CDFW within 30 days following completion of surveys.

**Residual Impacts.** Due to the uncertainty associated with the success of relocation of black abalone (MM MBIO-5), impacts associated with Discharge Structure and Breakwater removal and

restoration activities in Phases 1 and 2 of Alternative 8 and the potential to harm or disturb special-status invertebrate would remain significant and unavoidable (Class I).

**Impact MBIO-3: Generate noise or vibration levels above or below the water surface that could result in disturbance or injury to marine life (Class II: Less than Significant with Mitigation).**

## Phase 1

**Intake Structure Removal and Restoration.** The removal of the Intake Structure would require construction of a cofferdam to isolate the work area from the ocean similar to the Discharge Removal Activity. It was assumed that noise impacts for the Intake Cove would be similar to modeled results and impacts for the Discharge Removal Activity (PG&E, 2021b). While mortality is unlikely due to Project-related activities, behavioral changes could occur which would be considered a significant impact (Level B harassment) for any marine mammal or sea turtle (protected under FESA) that would be present within the impact zone. However, implementation of MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would reduce impacts from Project-related activities to a less-than-significant level (Class II).

As part of the Proposed Project, PG&E would provide environmental awareness training and documentation for all construction personnel prior to the start of any Project activities (AC BIO-1). The training includes photographs and a description of the ecology of all special-status species known, or with potential, to occur on site, as well as other sensitive resources requiring avoidance near the Project site. The training also includes an overview of the required avoidance, minimization, and mitigation measures and Project boundaries and avoidance area. Additionally, PG&E would inspect equipment daily and report and document any inadvertent “take” of federal or state-listed species (ACs BIO-2 and BIO-5). MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would require updating PG&E’s Marine Wildlife Contingency Plan (PG&E 2021b) to ensure that no harassment of marine mammals or other marine life occurs during Project activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/authority of MWOs; exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures.

With implementation of the recommended mitigation measure, impacts to marine life from noise or vibration levels generated under Alternative 8 would be reduced to a less-than-significant level (Class II).

## Railyards

Use of the railyards would continue under Alternative 8. The railyards are not located in or near a marine area. Therefore, no impact would occur.

## Phase 2

**Breakwater Removal and Restoration.** Regardless of approach (land-based or marine-based), a noise generating activity from Breakwater removal includes an excavator reaching below the waterline to demolish the concrete tribars and removing the concrete rubble. This may result in

behavioral avoidance by fish and birds, sea turtles, and marine mammals, which would be considered a significant impact (Level B harassment) for any marine mammal or sea turtle (protected under FESA) that would be present within the impact zone. However, as part of the Proposed Project PG&E would conduct Worker Environmental Awareness Training, implement general marine wildlife protection measures such as inspecting equipment daily and reporting and documenting any inadvertent “take” of federal or state-listed species (ACs BIO-1, BIO-2, and BIO-5). Implementation of ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would reduce impacts from Project-related activities to a less-than-significant level (Class II).

ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would require updating PG&E’s Marine Wildlife Contingency Plan (PG&E 2021b) to ensure that no harassment of marine mammals or other marine life occurs during Project activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/authority of MWOs; exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures.

An even greater concern would be the potential use of underwater explosives to break up the concrete ribs. PG&E prepared an Underwater Noise Impact Assessment (PG&E, 2022i) which provided a detailed analysis of underwater noise impacts on marine organisms associated from decommissioning activities; however, it did not address impacts associated with the use of demolitions. The use of explosives would result in the injury or mortality to all sessile organisms and fish within the Zone of Influence (ZOI), and would be considered an unavoidable impact; however, the impact would not be significant given that removal of the Breakwater would result in the loss of all sessile organisms, and no special-status fishes are expected to be present. However, marine mammals and sea turtles may also be injured or killed due to the use of explosives, which would be considered Level A harassment under the Marine Mammal Protection Act of 1972 and constitute a “take” of a protected species under FESA, respectively. This would be considered a significant impact; however, this impact would be reduced to less than significant (Class II) with implementation of ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) which would require updating PG&E’s Marine Wildlife Contingency Plan (PG&E, 2021b) to address noise impacts and develop exclusion zones for the potential use of demolitions, ensure that no harassment of marine mammals or other marine life occurs during Breakwater Removal activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/authority of MWOs; exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures.

### **Mitigation Measures for Impact MBIO-3.**

#### **ALT MBIO-15 Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal**

**Impact MBIO-4: Release pollutants into receiving water during decommissioning activities (Class I: Significant and Unavoidable).**

**Phase 1**

**Intake Structure Removal and Restoration.** The Intake Structure Removal and Restoration Activities include increased vessel activity that may result in greater risk of fuel or oil spills. As discussed under Impact MBIO-4 for the Proposed Project, the consequence of a spill would result in the high likelihood of substantial degradation of marine habitats including receiving waters and critical habitat for listed species and would be considered a significant impact. PG&E would minimize the likelihood of a spill occurring through worker training and construction equipment maintenance (ACs BIO-1 and BIO-4); however, impacts would be potentially significant. Implementation of MM MBIO-8 (*Oil Spill Response Plan*) would reduce impacts to receiving waters and adjacent marine habitats to a less-than-significant level (Class II). MM MBIO-8 (*Oil Spill Response Plan*) requires updating PG&E's Oil Spill Response Plan (PG&E, 2022h) to include at a minimum, a description of the Project scope of work and geographic area; pre-work planning needed to prepare for a possible nearshore oil spill; initial response procedures including agency notifications and onsite team communications; how the waste from the oil spill will be handled and disposed of; and a description of how the area will be decontaminated and how any contaminated materials will be handled.

In addition, shore-based construction associated with Intake Structure Removal and Restoration activities may lead to runoff or sedimentation from stormwater or other discharges. Sedimentation could bury marine habitats, turbidity can reduce light penetration and affect primary productivity and affect other water quality parameters such as dissolved oxygen levels, and runoff can transport toxic pollutants from surfaces, such as vehicle parking or construction staging areas. These stressors could degrade water column habitat, rocky intertidal and subtidal habitat, and affect surfgrass and kelp canopy habitats, both of which are considered EFH HAPC, in addition to black abalone critical habitat. Impacts related to runoff and effects on water quality are discussed in Section 4.11, *Hydrology and Water Quality*, under Impact HWQ-1. Additionally, Impact HWQ-3 discusses impacts related to degradation of marine water quality.

Impacts from Intake Structure Removal and Restoration activities to receiving waters include increased turbidity associated with cofferdam construction that includes pile driving and filling to seal the structure, as well as dewatering the enclosed area. As discussed under Impact MBIO-4 for the Proposed Project, each of these actions has the potential to increase turbidity in adjacent receiving waters, which may lower dissolved oxygen in the immediate vicinity of the discharge point, and could reduce foraging for fishes, seabirds, and marine mammals, as well as increase sedimentation on rocky reef and canopy kelp habitat. PG&E would minimize turbidity through worker training and construction equipment maintenance (ACs BIO-1 and BIO-4); however, impacts would be potentially significant. Implementation of MM MBIO-8 (*Oil Spill Response Plan*), MM MBIO-3 (*Water Quality Monitoring*), MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*), and ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would reduce the potential impacts to receiving waters, and marine mammals and sea turtles, to the extent feasible. However, because of the uncertainty

associated with the success of relocation of black abalone (MM MBIO-4), impacts would remain significant and unavoidable (Class I).

MM MBIO-8 (*Oil Spill Response Plan*) would require updating PG&E's Oil Spill Response Plan (PG&E, 2022e) to include at a minimum, a description of the Project scope of work and geographic area; pre-work planning needed to prepare for a possible nearshore oil spill; initial response procedures including agency notifications and onsite team communications; how the waste from the oil spill will be handled and disposed of; and a description of how the area will be decontaminated and how any contaminated materials will be handled. MM MBIO-3 (*Water Quality Monitoring Plan*) would require PG&E to update the Turbidity Monitoring Plan to include monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that Project-related activities were not contributing to conditions that could degrade sensitive marine habitats. If water quality monitoring detected persistent and elevated levels of turbidity, BMPs would be implemented to avoid or minimize turbidity impacts to receiving waters and adjacent habitats. MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*) would require PG&E to develop a plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with cofferdam construction and removal. The plan shall include tasks such as a pre-construction habitat and biological survey, an approach to relocate marine life, and dewatering controls to minimize turbidity, and inspection schedule to ensure compliance. MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would require updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2021b) to ensure that no harassment of marine mammals or other marine life occurs during Project activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/authority of MWOs; exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures.

With implementation of the recommended mitigation measures, impacts on marine life from the release of pollutants into receiving waters, and marine mammals and sea turtles under Alternative 8 would be reduced to the extent feasible but would remain significant (Class I).

## Railyards

Use of the railyards would continue under Alternative 8. The railyards are not located in or near a marine area. Therefore, no impact would occur.

## Phase 2

**Breakwater Removal and Restoration.** The Breakwater Removal and Restoration (marine-based approach) activities include increased vessel activity that may result in greater risk of fuel or oil spills. As discussed under Impact MBIO-4 for the Proposed Project, the consequence of a spill would result in the high likelihood of substantial degradation of marine habitats including receiving waters and critical habitat for listed species and would be considered a significant impact. PG&E would minimize the likelihood of a spill occurring through worker training and construction equipment maintenance (ACs BIO-1 and BIO-4); however, impacts would be potentially significant. Implementation of MM MBIO-8 (*Oil Spill Response Plan*) would reduce impacts to receiving waters and adjacent marine habitats to a less-than-significant level (Class II). MM MBIO-8 (*Oil*



*Spill Response Plan*) requires updating PG&E’s Oil Spill Response Plan (PG&E, 2022h) to include, at a minimum, a description of the Project scope of work and geographic area; pre-work planning needed to prepare for a possible nearshore oil spill; initial response procedures including agency notifications and onsite team communications; how the waste from the oil spill will be handled and disposed of; and a description of how the area will be decontaminated and how any contaminated materials will be handled.

In addition, land-based construction associated with Breakwater Removal and Restoration activities may lead to runoff or sedimentation from stormwater or other discharges. Sedimentation could bury marine habitats, turbidity can reduce light penetration and affect primary productivity and affect other water quality parameters such as dissolved oxygen levels, while runoff can transport toxic pollutants from surfaces, such as vehicle parking or construction staging areas. These stressors could degrade water column habitat, rocky intertidal and subtidal habitat, and affect surfgrass and kelp canopy habitats, both of which are considered EFH HAPC, in addition to black abalone critical habitat. Impacts related to runoff and effects on water quality are discussed in Section 4.11, *Hydrology and Water Quality*, under Impact HWQ-1. Additionally, Impact HWQ-3 discusses impacts related to degradation of marine water quality. With implementation of the recommended mitigation measures, impacts on marine life from the release of pollutants into receiving waters, and marine mammals and sea turtles under Alternative 8 would be reduced to a less-than-significant level (Class II).

**Mitigation Measures for Impact MBIO-4**

**MBIO-3 Water Quality Monitoring.** See Section 4.4.

**MBIO-4 Cofferdam Installation and Dewatering Plan.** See Section 4.4.

**MBIO-8 Oil Spill Response Plan.** See Section 4.4.

**ALT BIO-15 Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal**

**Residual Impacts.** Due to the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4), impacts associated with Discharge Structure and Breakwater removal and restoration activities in Phases 1 and 2 of Alternative 8 and the potential to release pollutants into receiving waters would remain significant and unavoidable (Class I).

**Impact MBIO-5: Introduce invasive non-native marine species during decontamination and dismantlement activities (Class II: Less than Significant with Mitigation).**

**Phase 1**

**Intake Structure Removal and Restoration.** The risk of transfer of non-native aquatic species (NAS) is greater for the Full Removal Alternative compared to the Proposed Project primarily due to the increased vessel activity. However, the transfer of NAS between potential NAS hotspots, such as harbor facilities, and the DCPD area is unlikely due to the short periods of time the vessels are expected to stay within the harbors during construction (i.e., insufficient length of time for NAS to establish on the hulls), and the ballast water management controls imposed by port facilities. While unlikely, the transfer of NAS between potential harbor facilities and the DCPD area

would be a significant impact; however, with implementation of MM MBIO-10 (*Non-Native Aquatic Species Measures*), the impact would be less than significant (Class II). MM MBIO-10 requires PG&E to verify that all Project vessels originate from a local harbor or port, or have underwater surfaces cleaned before entering Southern or Central California coastal areas prior to transiting to the DCPP area or disposal locations, as well as comply with applicable CSLC regulations or standards including Ballast Water Management Regulations, Biofouling Management Requirements, and/or Ballast Water Discharge Performance Standards.

The Intake Structure Removal and Restoration Activities increase the potential to disturb the ocean bottom and the spread or infestation of *Caulerpa*, a group of green algae that are not native to California. In order to detect existing infestations, as well as avoid the spread of these invasive species within other systems, the *Caulerpa* Control Protocol includes provisions for California nearshore coastal and enclosed bays, estuaries, and harbors from Morro Bay to the US/Mexican border that outlines the certification, survey, and reporting guidelines required when surveying for all *Caulerpa* species (NMFS, 2021). If *Caulerpa* were present within the Project areas, impacts would be considered significant; however, with implementation of MM MBIO-11 (*Pre-Construction Caulerpa Survey*) impacts would be reduced to less than significant (Class II). MM MBIO-11 (*Pre-Construction Caulerpa Survey*) requires PG&E to conduct a pre-construction survey for *Caulerpa* in accordance with the *Caulerpa* Control Protocols (NMFS, 2021) prior to initiation of any authorized bottom disturbing activity, and to submit findings to the NOAA Fisheries and CDFW within 15 calendar days of completion of survey.

With implementation of the recommended mitigation measures, impacts from invasive non-native marine species under Alternative 8 would be less than significant (Class II).

### Railyards

Use of the railyards would continue under Alternative 8. The railyards are not located in or near a marine area. Therefore, no impact would occur.

### Phase 2

**Breakwater Removal and Restoration.** Similar to the Intake Structure Removal and Restoration Activities, the Breakwater Removal and Restoration (marine-based approach) activities increase the potential to disturb the ocean bottom and the spread or infestation of *Caulerpa*. To detect existing infestations and avoid the spread of these invasive species within other systems, the *Caulerpa* Control Protocol includes provisions for California nearshore coastal and enclosed bays, estuaries, and harbors from Morro Bay to the US/Mexican border that outlines the certification, survey, and reporting guidelines required when surveying for all *Caulerpa* species (NMFS, 2021). With implementation of MM MBIO-11 (*Pre-Construction Caulerpa Survey*) impacts would be reduced to less than significant (Class II).

**Mitigation Measures for Impact MBIO-5.** See Section 4.4 for full text of measures.

**MBIO-10      Non-Native Aquatic Species Measures**

**MBIO-11      Pre-Construction *Caulerpa* Survey**

## Cumulative Impacts

Similar to the Proposed Project, if DCPD decommissioning activities overlapped with installation of the wind or energy farms there could potentially be greater vessel traffic and construction in offshore and nearshore waters that may lead to an increased likelihood of collisions with other vessels or equipment, marine mammals and sea turtles, oil or fuel spills, as well as increased underwater noise associated with increased vessel traffic. However, even with a slight increase in activities, given the relatively large area (i.e., nearshore and offshore waters from Southern California to Oregon) and infrequent number of Project-related vessel operations over an extended, multi-year period, even if barge trips were to occur at the same time as the potential wind or wave energy projects, the Project's potential contribution to cumulative impacts on marine biological resources would not be cumulatively considerable.

## ***Geology, Soils, Paleontological Resources, and Coastal Processes***

**Impact GEO-5: Expose structures, workers, and the public to damage or injury due to coastal hazards, including but not limited to flooding, wave runup, tsunamis, and bluff erosion and instability (Class I: Significant and Unavoidable).**

### **Phase 1**

Decommissioning of the Intake Structure would require breaking concrete with a large hoe ram capable of generating vibration. Geotechnical testing of the alignment for the new Auxiliary Seawater Bypass pipeline encountered the backfill materials placed as part of the original construction of the containment building. The fill generally consists of stiff clay and dense to very dense sand and gravel. However, two of the eight borings encountered medium dense sand below mean sea level (Harding Lawson Associates, 1996). The saturated sand measures about 5 feet thick in a backfill area of approximately 10 to 20 feet wide and 100 feet long (Harding Lawson Associates, 1996). Geotechnical analysis estimates there is a high probability of liquefaction during a large earthquake (M7 ½), and marginally liquefiable/non-liquefiable during a moderate earthquake (M6) (Harding Lawson Associates, 1996). The medium dense sand is constrained on all sides. Construction-related vibrations are not anticipated to achieve forces comparable to a large earthquake. No liquefaction related deformation of the existing sand backfill is anticipated during decommissioning Activities.

Per the CCC CDP A-3-SLO-04-035 for the existing ISFSI, annual surveys of the shoreline nearest the ISFSI transport road and Soil Disposal Site #2 are to be conducted through the life of the ISFSI by a licensed Surveyor or Civil Engineer (CCC, 2004). A site stability evaluation report must be prepared and submitted by a California Certified Engineering Geologist based upon an on-site evaluation that indicates that the bluff setback is adequate to allow for bluff erosion over the 75-year period (CCC, 2004). For the case where the Intake Structure is backfilled, MM ALT GEO-6 is recommended to additionally monitor the area of the Intake Structure to ensure stability and structural integrity of the backfill to withstand natural bluff erosion and wave action. With implementation of MM ALT GEO-6 impacts from this alternative would be less than significant (Class II).

However, for the case where the Intake Structure area is not backfilled, this would leave very steep side slopes and potentially be mantled with loose, disturbed rock of the Obispo Formation, remnant backfill soil, and Terrace Deposits. These disturbed materials would be subject to erosion and accelerated bluff retreat. Implementation of MM ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan*) may reduce these impacts but may not reduce erosion to acceptable levels and protective of sedimentation in the coastal zone. Slope failures and prolonged erosion may also require maintenance and repair of erosion control measures at the top of the new bluffs. As such, impacts would remain significant and unavoidable (Class I).

As discussed in Section 4.8.1.3, *Environmental Setting – Coastal Processes*, the maximum estimated wave height outside of the DCPD Breakwaters is approximately 44.6 feet, and the maximum wave crest elevation inside the Breakwaters is approximately 12.8 feet North American Vertical Datum of 1988 (NAVD88) (PG&E, 2015), including the effects of storm surges. The local threat of tsunami-related damage is primarily confined to areas less than 50 feet above mean sea level (San Luis Obispo, 2016). Therefore, the local threat of coastal hazards at the DCPD site is primarily confined to low-lying coastal areas less than 50 feet above mean sea level. The DCPD upland areas above the coastal cliffs are approximately 85 feet NAVD88 and not at risk from coastal flooding wave runup or tsunamis.

The Discharge Structure is at the base of the cliffs; the Intake Structure and Marina are situated between approximately 20 and 30 feet NAVD88, and the Breakwaters have a maximum crest elevation of approximately 20 feet NAVD88. Decommissioning activities (i.e., decontamination, dismantlement) at these various coastal structures have the potential to put more workers within the coastal zone compared to the Proposed Project, where they could be exposed to coastal hazards, including flooding, wave runup, or tsunamis. Removal of the Discharge Structure and associated water tunnels would be completed as described for the Proposed Project, including use of a cofferdam designed to withstand overtopping from a 50-year storm event and sealing of the water tunnels with a concrete bulkhead. The Intake Structure would be isolated from the ocean using a cofferdam during demolition which would protect workers and the structure from coastal processes. The cofferdam would be installed around the Intake Structure similar to the Discharge Structure cofferdam as described in the Proposed Project. In addition, for added safety protection from large swells for the construction crews, equipment, and materials, additional tribars may be temporarily stacked along the West Breakwater (see Figure 5-12). Unlike the Proposed Project, after the Discharge Structure has been demolished, backfilling with quarry rock rip-rap and topsoil would not occur. Not backfilling would leave the cliff face exposed to bluff erosion and instability due to flooding and wave runup after demolition and may result in a Class I impact. As described above, if the Intake Structure area is not backfilled, the cliff in the area of the Intake Structure would also be left with a void made up of steep side slopes and loose, disturbed rock remnant backfill soil, and Terrace Deposits. These disturbed materials would be subject to waves and coastal processes, which would accelerate erosion within the coastal zone. Erosion at the base could lead to cliff instability and accelerate slide and land loss. Implementation of MM ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan*) may reduce these impacts but may not reduce erosion to acceptable levels and protective of sedimentation in the coastal zone. Slope failures and prolonged erosion may also require maintenance and repair of erosion control measures at the top of the new bluffs. As such, impacts would remain significant and unavoidable (Class I).

Compared to the Proposed Project, demolition and restoration of the Intake Structure area would increase the risk of exposure to coastal hazards for structures and workers, as more workers would be within the coastal zone where they could be exposed to coastal hazards, particularly during construction and removal of the cofferdam. Once in place, the cofferdam would offer protection to workers from flooding and waves. Additionally, the DCCP facility has safety protocols in place based on NRC safety requirements that would continue to be followed throughout decommissioning activities, minimizing accidents from occurring. The probability of tsunamis is low; the National Oceanic and Atmospheric Administration also maintains an active tsunami monitoring system that provides early warning to allow workers time to vacate low-lying areas for higher ground. Therefore, similar to the Proposed Project, impacts from tsunamis would be less than significant (Class III).

The DCCP site would not be open to the public during decommissioning and would not expose the public to damage or injury due to coastal hazards, and there would be no impact. Additionally, unlike the Proposed Project, the Marina facilities would be removed and would not be improved for future use; therefore, the public would not be exposed to coastal hazards once decommissioning is complete, and there would be no operational impacts. While the Breakwater would no longer provide protection to the coastline, future potential passive use would likely lead to less access to the immediate coastal area than if the Marina were developed. Therefore, there would be less risk to the public following removal of the structures along the coastline compared to the Proposed Project.

### **Railyards**

There would be no change to the uplands and railyards under the CSLC Full Removal Alternative, and use of the railyards would continue the same as the Proposed Project. There would be no impact to structures, workers, and the public due to coastal hazards.

### **Phase 2**

Demolishing the Breakwaters would not be done within a cofferdam and would expose workers to coastal hazards, especially wave runoff. During demolition, the Breakwater structures would also be more susceptible to failure in the event of a coastal storm, as dismantlement would remove the protective design of stone armoring and leave areas open to venting. Failure of the Breakwater structure would also put workers at risk, especially if dismantlement is done primarily from the water. Such risks would be greater than the Proposed Project, but adherence to standard construction safety protocols including worker training and safety checks would ensure impacts are less than significant (Class III).

The DCCP site would not be open to the public during decommissioning and would not expose the public to damage or injury due to coastal hazards, and there would be no impact. Additionally, unlike the Proposed Project, the Marina facilities would be removed and would not be improved for future use; therefore, the public would not be exposed to coastal hazards once decommissioning is complete, and there would be no impact. Therefore, there would be less risk to the public following construction compared to the Proposed Project.

### **Mitigation Measures for Impact GEO-5.**

**ALT GEO-6 Intake Structure Backfill and Natural Bluff Site Inspection.** The Applicant or its designee shall complete a site inspection one year after placement of Intake Structure backfill. The inspection shall be completed by a California Certified Engineering Geologist and include the entire area of Intake Structure backfill and the adjacent natural bluffs. The inspection shall note settlement, tension cracks at top of bluff, loss of material, and change of slope, if any. The Applicant or its designee shall submit a report of findings to the County for review within 45 days following completion of each annual inspection, documenting the overall performance of the backfill and natural bluffs and shall provide recommendations for repair or replenishment of the backfill, as necessary. Annual inspections shall continue for a period of five years. The fifth annual report shall present conclusions and recommendations for additional monitoring if necessary. If repairs are recommended by the Applicant's certified engineering geologist, the County Geologist shall review the scope of repairs and approve within 30 days.

**ALT GEO-7 Long-Term Slope Stability and Erosion Control Plan.** Ninety (90) days prior to issuance of building or grading permits, the Applicant or its designee shall prepare and receive approval for a Long-Term Slope Stability and Erosion Control Plan to address removal of loose earth materials, slope stability, bluff retreat, and drainage control for the Discharge Structure and Intake Structure. To reduce shoreline hardening, the Plan shall not include new slope protection measures such as rip rap and shotcrete. The Plan shall determine stable slope inclinations for the bedrock material and Terrace Deposits as well as develop grading and slope contouring plans and drainage control to reduce water and sediment flow from reaching the slopes in the vicinity of the Discharge Structure removal area (without backfill) and Intake Structure removal area (without backfill). The Plan shall also consider wave action and future sea level rise affecting the base of the sea cliff. The Plan shall include annual inspections of the slopes in the removal areas and development of horizontal setbacks from the top of the new bluff slopes to limit future structures or use of the land near the removal areas. The Plan shall be submitted to the County Department of Planning and Building for review and approval. The Plan shall be prepared and signed by a California licensed geotechnical engineer and certified engineering geologist. Within 45 days following completion of each annual inspection, the Applicant or its designee shall submit a report of findings documenting the overall performance of the bluffs and recontoured slopes and shall provide recommendations for repair of drainage control devices or slopes, as necessary. The report shall be prepared by a certified engineering geologist and shall be submitted to the County for review. Annual inspections shall continue for a period of five years. The fifth annual report shall present conclusions and recommendations for additional monitoring, if necessary.

**Impacts of Mitigation.** Implementation of MM ALT GEO-6 (*Intake Structure Backfill and Natural Bluff Site Inspection*) may lead to additional impacts associated with future repairs of the Intake Structure backfill, if such repairs are identified. Such repairs are considered speculative at this time, and if they occur would happen in a piecemeal fashion. It is anticipated that any such repairs

would occur much further in the future at a time when construction equipment may be cleaner, and regulations may be stricter. Additionally, such repairs may be exempt from CEQA, such as repairs to prevent an emergency (State CEQA Guidelines §15269(c)), restoration of deteriorated or damaged structures (State CEQA Guidelines §15301(d)), or filling of earth into previously excavated land with material compatible with the natural features of the site (State CEQA Guidelines §15304(c)). Impacts associated with such repairs may include additional air quality and greenhouse gas emissions associated with earth movement, use of construction equipment and trucks; biological resource impacts in areas that may have otherwise been restored under the Proposed Project; and potential for soil erosion and associated water quality impacts. These impacts would be assessed on a case-by-case basis and the appropriate CEQA documentation completed, as needed.

Implementation of MM ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan*) may not reduce erosion to acceptable levels and lead to additional sea cliff erosion and bluff retreat. The very steep side slopes surrounding the excavation necessary for full removal of the Discharge Structure and Intake Structure (if not backfilled) would be open to wave action at the base and surface erosion above. The graded slopes, without engineered slope protection measures, cut into the 60-foot-high sea cliff formed in the Obispo Formation and 25-foot-high bluff formed in the Terrace Deposits may not reduce erosion to acceptable levels and protective of sedimentation in the coastal zone. Slope failures and prolonged erosion may require maintenance and repair of erosion control measures at the top of the new bluffs. Such repairs are considered speculative at this time, and if they occur would happen in a piecemeal fashion. It is anticipated that any such repairs would occur much further in the future at a time when construction equipment may be cleaner, and regulations may be stricter. Impacts associated with such repairs may include additional air quality and greenhouse gas emissions associated with earth movement, use of construction equipment and trucks; biological resource impacts in areas that may have otherwise been restored under the Proposed Project; and potential for soil erosion and associated water quality impacts. These impacts would be assessed on a case-by-case basis and the appropriate CEQA documentation completed, as needed.

**Residual Impacts.** For the case where the Intake Structure area is not backfilled, this would leave very steep side slopes, where disturbed materials would be subject to erosion and accelerated bluff retreat and would be subject to waves and coastal processes, which further accelerate erosion within the coastal zone. Erosion at the base could lead to cliff instability and accelerate slide and land loss. Implementation of MM ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan*) may reduce these impacts but may not reduce erosion to acceptable levels and protective of sedimentation in the coastal zone. As such, impacts would be significant and unavoidable (Class I).

**Impact GEO-6: Impair nearshore sediment properties, characteristics, or processes during and after decontamination and dismantlement activities (Class II: Less than Significant with Mitigation).**

Because the DCPP site includes built structures in the coastal zone (see Figure 1-2), decommissioning activities have the potential to impact nearshore sediment properties, characteristics, or processes. Under Alternative 8, the Discharge Structure, Intake Structure, Marina, and Break-

waters, which are all located within or directly adjacent to the shoreline and coastal waters, would be dismantled and removed. Construction in these areas may increase effects on nearshore coastal processes.

### Phase 1

As described for the Proposed Project, the Discharge Structure and associated tunnels, which extend 30 feet into the bluff, would be demolished and fully removed creating a void in the coastal bluff. Prior to construction, a cofferdam would be constructed around the Discharge Structure and remain in place for the entirety of the demolition, which would prevent sediment from entering the littoral system during construction. As discussed in Section 2.2.4, *Ongoing Safety and Environmental Activities*, PG&E developed a Turbidity Monitoring Plan containing recommendations to avoid and minimize impacts to water quality associated with the demolition of the Discharge Structure. The plan describes protocols and methods to be implemented to minimize impacts to water quality, specifically turbidity, in accordance with standards in the California Ocean Plan. This plan will also help minimize the effects of erosion during the removal of the Discharge Structure. Impacts during construction would be reduced to less than significant with implementation of MM MBIO-3 (*Water Quality Monitoring Plan*), which requires PG&E to update the Turbidity Monitoring Plan to include permit requirements for monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that construction activities are not contributing to conditions that could degrade sensitive marine habitats, and MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*), which requires PG&E to develop a plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with cofferdam construction and removal (Class II).

Unlike the Proposed Project, the void in the cliff left by removal of the Discharge Structure would not be backfilled, leaving a large gap in the cliff face. While coastal cliffs erode naturally, such a void within a cliff face without any naturally protective rock would lead to greater rates of erosion which would supply a large amount of sediment to nearshore area. MM GEO-7 (*Long-Term Slope Stability and Erosion Control Plan*) includes a Long-Term Slope Stability and Erosion Control Plan to address removal of loose earth materials, slope stability, bluff retreat, and drainage control for the Discharge Structure and Intake Structure. Overall, the coastline in the area outside of the Project area is undeveloped and the extra sediment would be distributed over a large area. Therefore, it is unlikely to impair nearshore sediment properties, characteristics, or processes (Class II).

The cofferdam used to remove the Intake Structure would remain in place for the entirety of the demolition, which would prevent sediment from entering the littoral system during construction. The void left by demolition of the Intake Structure may or may not be backfilled. If backfilled, the shoreline would be continuous and would revert back to natural conditions. If left unfilled, similar to the Discharge Structure, the void may lead to greater rates of erosion which may supply greater amounts of sediment to nearshore area. ALT MM GEO-6 (*Intake Structure Backfill and Natural Bluff Site Inspection*) includes monitoring the area of the Intake Structure to ensure stability and structural integrity to withstand natural bluff erosion and wave action, and ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan*) Overall, the coastline in the area



outside of the Project area is undeveloped and the extra sediment would be distributed over a large area. Therefore, it is unlikely to impair nearshore sediment properties, characteristics, or processes (Class II).

As with the Proposed Project, local ocean water circulation at the Intake and Discharge Structures would be altered once these structures are no longer operating and has the potential to change very localized sediment movement. However, natural sediment flow within the Intake Cove is already potentially impeded by the Breakwaters through Phase 1 (see Phase 2 discussion below for with Breakwater removal impacts). Within the Discharge Cove, with cessation of Discharge Structure flows, circulation would revert to natural patterns and sediment flow would no longer be impeded in this area. The impact would be less than significant (Class III).

### **Railyards**

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impact on coastal processes.

### **Phase 2**

Removing the Breakwater and Marina would not occur within a cofferdam, and sediment could enter the littoral system. However, the coastline in the area outside of the Project area is undeveloped, and the extra sediment would be distributed over a large area. Therefore, it is unlikely to impair nearshore sediment properties, characteristics, or processes (Class II).

After removing the Breakwaters, circulation in the area of the former Intake Cove would revert to the natural patterns prior to the construction of the DCPD facility, and sediment flow would no longer be impeded. The impact would be less than significant (Class III).

### **Mitigation Measures for Impact GEO-6.**

- MBIO-3**      **Water Quality Monitoring Plan.** See Section 4.4.
- MBIO-4**      **Cofferdam Installation and Dewatering Plan.** See Section 4.4.
- GEO-5**        **Discharge Structure Backfill and Natural Bluff Site Inspection.** See Section 4.8.
- ALT GEO-6**    **Intake Structure Backfill and Natural Bluff Site Inspection**
- ALT GEO-7**    **Long-Term Slope Stability and Erosion Control Plan**

**Impact GEO-7: Impair coastal wave, current, or circulation patterns during and after decontamination and dismantlement activities (Class III: Less than Significant).**

Under Alternative 8, the Discharge Structure, Intake Structure, Marina, and Breakwaters, which are all located within, or directly adjacent to, the shoreline and coastal waters, would be dismantled and removed. Construction in these areas may affect or impair current and circulation patterns with use of cofferdams.

## Phase 1

The Discharge and Intake Structures would be fully removed, which if not backfilled would create large gaps in the cliff face. A maximum sea cliff retreat over the next 75-year period is anticipated to be 1.0 to 4.5 meters for Diablo Cove and 0.5 to 2.5 meters for Patton Cove (cove southeast of the Intake Cove) (see Section 4.8.1.3, under *Littoral Processes*). These remaining voids could possibly change local wave and circulation patterns by creating an eddy effect. However, the effect would be very localized, and the cliff would eventually erode over the 75-year period to a smoother face, and the eddy effect would be less pronounced over time resulting in a less-than-significant impact (Class III).

As with the Proposed Project, local ocean water circulation at the Intake and Discharge Structures would be altered once they are no longer operating. However, natural circulation within the Intake Cove is already to some extent impeded by the Breakwaters, which would remain in place through Phase 1 under Alternative 8. Within the Discharge Cove, with cessation of Discharge Structure flows, circulation would revert to natural patterns. This impact would be less than significant (Class III).

## Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impact on coastal wave, current, or circulation patterns.

## Phase 2

After removing the Breakwaters, circulation and current patterns would revert to the natural patterns prior to construction of the DCPD facility. The impact would be less than significant (Class III).

**Mitigation Measures for Impact GEO-7.** No mitigation measures are required.

**Impact GEO-8: Increase the effects of coastal flooding or erosion associated with sea level rise during and after decontamination and dismantlement activities (Class II: Less than Significant with Mitigation).**

## Phase 1

Under Alternative 8, the Discharge Structure and Intake Structure, which are located within or directly adjacent to the shoreline and coastal waters, would be removed in Phase 1. As such, sea level rise (SLR) would not affect these structures. SLR has the potential to exacerbate erosion in the void areas created from removal of the Discharge Structure (no backfill) and Intake Structures (if not backfilled) and accelerate retreat. With implementation of MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*), MM ALT GEO-6 (*Intake Structure Backfill and Natural Bluff Site Inspection*), and ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan*). However, the effects of additional wave action and sea level rise would exacerbate erosion; while MM GEO-5, MM ALT GEO-6 and MM ALT GEO-7 would lessen the effect, they may not reduce erosion to acceptable levels and be protective of coastal flooding and erosion in the coastal zone. Slope failures and prolonged erosion may require maintenance and repair of erosion control measures

at the top of the new bluffs. Such repairs are considered speculative at this time, and if they occur would happen in a piecemeal fashion. It is anticipated that any such repairs would occur much further in the future at a time when construction equipment may be cleaner, and regulations may be stricter. Impacts associated with such repairs may include additional air quality and greenhouse gas emissions associated with earth movement, use of construction equipment and trucks; impacts to biological resources in areas that may have otherwise been restored under the Proposed Project; and potential for soil erosion and associated water quality impacts. These impacts would be assessed on a case-by-case basis and the appropriate CEQA documentation completed, as needed the effects of SLR-related erosion would be less than significant (Class II).

As most of the DCPD site and associated structures are set back from the cliffs beyond the risk of coastal processes and would be demolished as part of the Proposed Project, SLR-exacerbated erosion of the cliffs is not expected to affect the uplands structures.

### **Railyards**

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impact related to SLR.

### **Phase 2**

Under Alternative 8, the Breakwaters and Marina, which are located within or directly adjacent to the shoreline and coastal waters, would be removed in Phase 2. As such, SLR would not affect these structures.

### **Mitigation Measures for Impact GEO-7.**

**GEO-5          Discharge Structure Backfill and Natural Bluff Site Inspection.** See Section 4.8.

**ALT GEO-6      Intake Structure Backfill and Natural Bluff Site Inspection**

**ALT GEO-7      Long-Term Slope Stability and Erosion Control Plan**

### Cumulative Impacts

Cumulative Project #25 (Port San Luis Breakwater Repair) is the only project that could pose a cumulative impact in combination with the Breakwater dismantlement component of Alternative 8. It is not in close proximity to the DCPD site, but because it involves breakwater repair in the same coastal area it could result in cumulative impacts to coastal processes. However, because Project #25 is expected to be completed in 2023 and the Discharge Structure, Intake Structure, Breakwater, and Marina removal and restoration elements of Alternative 8 are expected to begin around 2030, no overlap would be anticipated. Therefore, Alternative 8 would not contribute to cumulative impacts to coastal processes.

## Greenhouse Gas Emissions

**Impact GHG-1: Generate GHG emissions that may have a significant impact on the environment (Class II: Less than Significant with Mitigation).**

### Phase 1

The CSLC Full Removal Alternative would generate additional GHG emissions during decommissioning and dismantlement activities including from off-road equipment, on-road vehicles, rail locomotives, and marine vessels used in the process of dismantling, decontaminating, and removing the Intake Structure and Breakwaters. The total GHG emissions over the lifetime of the Proposed Project, and how they compare to the estimated GHG emissions for this alternative are shown in Table 5-13.

**Table 5-13. Comparison of Proposed Project and Alternative 8 GHG Emissions**

Proposed Project	GHG Emissions
<b>Total Phase 1 Emissions</b> (Table 4.9-2)	<b>91,744 MTCO<sub>2</sub>e</b>
Phase 1 Maximum Yearly Emissions Rate (Table 4.9-2)	10,402 MTCO <sub>2</sub> e per year
<b>Total Phase 2 Emissions</b> (Table 4.9-3)	<b>7,698 MTCO<sub>2</sub>e</b>
Phase 2 Operational Emissions (Table 4.9-3)	316 MTCO <sub>2</sub> e per year
Phase 2 Maximum Yearly Emissions (Table 4.9-3)	1,586 MTCO <sub>2</sub> e per year
Additional Phase 1 Alternative 8 Emissions	5,355 MTCO <sub>2</sub> e
Additional Phase 1 Alternative 8 Yearly Emissions	2,142 MTCO <sub>2</sub> e per year
Additional Phase 2 Alternative 8 Emissions	14,181 MTCO <sub>2</sub> e
Additional Phase 2 Alternative 7 Yearly Emissions	4,052 MTCO <sub>2</sub> e per year
Alternative 8 Maximum Total Emissions	<b>117,156 MTCO<sub>2</sub>e</b>
Alternative 8 Maximum Yearly Emissions	<b>15,757 MTCO<sub>2</sub>e per year</b>

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.

Acronyms: MTCO<sub>2</sub>e = metric tons carbon dioxide equivalent.

Phase 1 and Phase 2 activities under Alternative 8 would result in GHG emissions rates ranging up to 15,757 MTCO<sub>2</sub>e per year. This level of GHG emissions would result in an increase relative to baseline conditions and would require mitigation consistent with SLOCAPCD recommendations.

The impact to global climate change is, by definition, cumulative. Because an overall net increase in GHG emissions would occur, Alternative 8, like the Proposed Project, would generate GHG emissions at a level that would have a potentially significant impact on the environment, before considering mitigation. To achieve “no net increase” of GHG emissions and fully (100 percent) offset the GHG emissions at a 1-to-1 (1:1) ratio, ALT MM GHG-2 (*Additional Reduction in GHG Emissions or Surrender Offset Credits*) is recommended, which requires PG&E to reduce or offset Alternative 8-related GHG emissions to avoid a significant impact on the environment (Class II).

### Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, emissions from the railyards are included in the total GHG emissions quantified for Phases 1 and 2. To

achieve “no net increase” of GHG emissions and fully (100 percent) offset the GHG emissions at a 1-to-1 (1:1) ratio, ALT MM GHG-2 (*Additional Reduction in GHG Emissions or Surrender Offset Credits*) is recommended, which requires PG&E to reduce or offset Alternative 8-related GHG emissions. Therefore, impacts would remain less than significant with mitigation (Class II).

## Phase 2

As discussed under Phase 1, Phase 2 activities combined with Phase 1 activities under Alternative 8 would result in GHG emissions rates that would exceed the SLOCAPCD annual significance threshold. Therefore, ALT MM GHG-2 (*Additional Reduction in GHG Emissions or Surrender Offset Credits*) is recommended to avoid a significant impact on the environment (Class II).

### Mitigation Measures for Impact GHG-1.

**ALT GHG-2 Additional Reduction in GHG Emissions or Surrender Offset Credits.** The Applicant or its designee shall reduce or offset annual incremental greenhouse gas (GHG) emissions from Project-related sources, including those associated with removal of the Intake Structure and Breakwaters. These incremental emissions are estimated to be less than or equal to 15,757 MTCO<sub>2</sub>e per year.

The Applicant or its designee shall prepare and implement a GHG Reduction and Reporting Plan that describes how annual GHG emissions could be reduced with local projects and offsets. The Plan shall include provisions for and outline of an annual report to the County that summarizes the emission reduction measures implemented, quantifies the Project-related estimated GHGs emissions for the year, and demonstrates the quantity of metric tons of local GHG reductions/carbon sequestrations secured and voluntary-market registry offset credits surrendered. Each annual report shall reconcile the actual emissions of the previous year with the mitigation quantity, in terms of MTCO<sub>2</sub>e. The standard of performance for this mitigation is to reduce or offset GHG emissions at a quantity that equals or exceeds the additional emissions of Phase 1 and Phase 2 of the Project during any year. The Applicant or its designee may demonstrate that lower levels of GHG mitigation are needed during certain years of low activity.

Onsite GHG reductions and local GHG reduction/carbon sequestration projects should be exhausted to the extent feasible prior to surrendering credits from offsite projects. If local projects will provide offsite mitigation, first preference should be given to projects in San Luis Obispo and Santa Barbara Counties and second preference to projects in the other four counties of California’s Central coast air basins (Ventura, Monterey, San Benito, and Santa Cruz counties). Implementing the required amount of any of the following types of emission reductions shall be an acceptable means of mitigation:

- GHG reductions or carbon sequestrations generated within San Luis Obispo and Santa Barbara Counties first and then in the other four Central Coast counties by implementing a GHG reduction project consistent with any methodology approved by either the San Luis Obispo County Board of Supervisors or the Air Pollution Control District (APCD) for the purpose of providing CEQA mitigation.

- GHG reductions from voluntary-market registry offset credits listed with and verified by: (1) one of the following CARB-approved Offset Project Registries: American Carbon Registry (ACR); Climate Action Reserve (CAR); or Verra, formerly Verified Carbon Standard. “Offset Project Registry” has the same definition as that set forth in Section 95802 of Title 17 of the California Code of Regulations (17 CCR 95802); (2) Climate Forward; or (3) GHG reduction/carbon sequestration supplies that are consistent with requirements specified in the State CEQA Guidelines and case law. Offset credits should be selected based on the preference hierarchy found in SLO County APCD’s 2021 Interim GHG Guidance or the 2022 CARB Scoping Plan Update Appendix D Section 4.1.

*Plan Requirements and Timing.* The GHG reductions achieved, credits surrendered, or any GHG offset project sponsored by the Applicant or its designee, must be supported by a demonstration to the County that any local projects are acceptable to APCD and that any offsets are consistent with requirements specified in the State CEQA Guidelines and case law. The GHG Reduction and Reporting Plan shall be reviewed and approved by the County Department of Planning and Building, in consultation with the San Luis Obispo County Air Pollution Control District, prior to issuance of the Conditional Use Permit. The necessary annual quantity of local GHG reduction/carbon sequestration projects shall be committed to and any verified offset credits under this plan shall be surrendered prior to April 15 of each calendar year following the year of initiating construction.

*Monitoring:* The County Department of Planning and Building, in consultation with the APCD, will review and approve the GHG Reduction and Reporting Plan and any proposed GHG reduction credits prior to their use as mitigation. Subsequent annual reporting of GHG emissions and reduction or offset measures implemented will be reviewed and approved by the County Department of Planning and Building in consultation with the APCD.

**Impact GHG-2: Conflict with GHG emissions reduction plans, policies, or regulations (Class III: Less than Significant).**

**Phase 1**

This alternative, like the Proposed Project, would not be directly subject to any GHG emission reduction regulations. Decommissioning activities, transportation fuels, equipment, and vehicles used would be required to comply with applicable policies, regulations, and standards. The CSLC Full Removal Alternative would not conflict with any applicable plan, policy, or regulation related to reducing GHGs. Therefore, the potential to conflict with GHG emissions reduction plans, policies, or regulations would be less than significant (Class III).

**Railyards**

Like the Proposed Project, activities at the railyards would not be directly subject to any GHG emission reduction regulations. The use of the railyards would be required to comply with applicable policies, regulations, and standards. The impact would be less than significant (Class III).

## Phase 2

As discussed under Phase 1, activities in Phase 2 would not be directly subject to any GHG emission reduction regulations. Phase 2 activities would continue to comply with applicable plans, policies, and regulations related to GHG reductions. The impact would be less than significant (Class III).

**Mitigation Measures for Impact GHG-2.** No mitigation measures are required.

### Cumulative Impacts

No single project could, by itself, result in a substantial change in climate. Alternative 8 effects are globally cumulative, such that there is no separate cumulative impacts analysis for global climate change.

### *Hydrology and Water Quality*

**Impact HWQ-1: Violate any water quality standards or waste discharge requirements, create substantial additional sources of polluted runoff, or require significant additional treatment of dewatered structures, systems, and components (Class II: Less than Significant with Mitigation).**

## Phase 1

Under Alternative 8, construction activities would generally be the same as the Proposed Project, with the additional removal of the Intake Structure. Dismantling structures within the coastal zone would increase the likelihood of introducing pollutants in closer proximity to the marine environment which could impact local water quality. Like the Proposed Project, several plans and measures would be implemented as part of the alternative during construction to control sources of contaminants, limit erosion and dust, and prevent discharge of stormwater. At the time of application for construction permits, PG&E would be required to submit construction phasing plan(s), as applicable, for review and approval by County of San Luis Obispo Department of Planning & Building, in consultation with the Department of Public Works, to identify all plans required. Required plans include a site-specific SWPPP; Erosion and Sediment Control Plan; Spill Prevention, Control, and Countermeasure (SPCC) Plan; Grading Plan; and a Construction Drainage Plan (see MM HWQ-1, *Prepare and Implement Drainage Plans*). To ensure that these plans are implemented and adhered to throughout the duration of Alternative 8, MM EM-2 (*Project Plan Updating, Tracking, and Reporting*) is required. With implementation of the plans, CGP, and MM HWQ-1 and MM EM-2, construction activities during Phase 1 of Alternative 8 at the DCPD site would not directly violate any water quality standards or waste discharge requirements and impacts would be less than significant (Class II).

## Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be less-than-significant impacts related to violating water quality standards (Class III).

## Phase 2

Under Alternative 8, construction activities would generally be the same as the Proposed Project, with the additional removal of the Breakwaters and Marina. Like the Proposed Project, Alternative 8 would not violate any water quality standards or waste discharge requirements or create substantial additional sources of polluted runoff during Phase 2 with implementation of the Erosion and Sediment Control Plan for the DCPD site, SPCC Plan, and site-specific SWPPP (see Table 2-2); as well as with implementation of requirements within the existing Stormwater Industrial General Permit (IGP), NPDES permits, and Nuclear Energy Institute Industry Ground Water Protection Initiative. As with the Proposed Project, MMs EM-2 (*Plan Tracking and Reporting*), HWQ-1 (*Prepare and Implement Drainage Plans*), and HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) are recommended. Impacts would be less than significant with mitigation (Class II).

### Mitigation Measures for Impact HWQ-1.

**EM-2 Project Plan Updating, Tracking, and Reporting.** See Section 3.

**HWQ-1 Prepare and Implement Drainage Plans.** See Section 4.11.

**HWQ-2 Long-Term Erosion and Sediment Control Plan.** See Section 4.11.

**Impact HWQ-2: Degrade surface water quality as a result of chemical spills during decontamination and dismantlement activities or introduce contaminants to surface water as a result of groundwater dewatering during decontamination and dismantlement activities or at the off-site materials handling facilities (Class II: Less than Significant with Mitigation).**

## Phase 1

Decommissioning activities have the potential to degrade surface water quality through accidental spills, structure dismantlement, and through the dewatering process if not adequately planned for and controlled. Under Alternative 8, more heavy construction equipment, barges, tugboats, and ocean equipment would be used for decommissioning structures in the marine area of the DCPD site. Like the Proposed Project, this alternative would implement several plans and measures during construction to control sources of contaminants including the Oil Spill Response Plan (see Table 2-2), which would be updated per MM MBIO-8 (*Oil Spill Response Plan*); SPCC Plan (see Table 2-2); and CGP requirements and associated site-specific SWPPP (ACs WQ-1 and BIO-3), which are regulatory requirements. Additionally, with implementation of MM HWQ-1 (*Prepare and Implement Drainage Plans*), which requires PG&E to develop a Construction Drainage Plan to San Luis Obispo County standards and MM MBIO-8, the potential to degrade surface water quality during Phase 1 construction activities at the DCPD site would be less than significant (Class II).

## Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be less-than-significant impacts related to degradation of surface water quality (Class III).



## Phase 2

Like the Proposed Project, for Alternative 8 compliance and implementation of the site-specific SWPPP, SPCC Plan, and updating the Oil Spill Response Plan (MM MBIO-8) would reduce the risk of a spill occurring and minimize impacts to less than significant (Class II).

### Mitigation Measures for Impact HWQ-2.

**MBIO-8**      **Oil Spill Response Plan.** See Section 4.4.

**HWQ-1**      **Prepare and Implement Drainage Plans.** See Section 4.11.

**Impact HWQ-3: Substantially degrade marine water quality, including increasing turbidity and debris in the marine environment during decontamination and dismantlement activities, or potentially exceed California Ocean Plan salinity requirements or reducing dissolved oxygen concentrations upon cessation of power generation activities (Class II: Less than Significant with Mitigation).**

## Phase 1

Alternative 8 may substantially degrade marine water quality from the discharge of debris, increased turbidity, and increased salinity. Phase 1 would generate construction debris through dismantlement and demolition of structures. Most Phase 1 construction would occur on land, and debris would be contained on site. However, Alternative 8 has additional marine demolition work, including removal of the Discharge Structure (without backfill) and Intake Structure (with or without backfill).

A cofferdam and dewatering system would be used for removal of the Discharge and Intake Structures to allow work to be conducted under dry conditions. Placement of the cofferdam around these structures would minimize the distribution of debris beyond the containment area; however, the actual placement of the cofferdam and removal when restoration activities are complete would result in the disturbance and resuspension of sediment adjacent to these structures leading to increased turbidity. In addition, because the Discharge Structure would not be backfilled, and in the case where the Intake Structure is not backfilled, the voids left in the cliff face would result in increased sedimentation from erosion.

As discussed for the Proposed Project, discharge from the temporary SWRO brine line into the Discharge Cove also has the potential to cause turbidity; however, it is expected to be substantially less than existing conditions where the Discharge Structure is operational. In addition, the temporary pipe would include diffusers to reduce velocity of the discharge and limit the potential for increased turbidity. To support the period of redirected flow, PG&E would obtain an amendment to the existing NPDES Permit No. CA0003751 or would obtain a new NPDES permit. Effluent limitations for turbidity are outlined in the California Ocean Plan.

A Turbidity Monitoring Plan has been developed for decommissioning activities associated with the demolition and removal of the Discharge Structure and restoration activities; however, it does not address the temporary brine line or the additional removals that would occur in the marine environment under Alternative 8. MM HWQ-4 (*Turbidity Monitoring Plan*) and ALT MM HWQ-5 (*Add Breakwaters and Intake Structure to the Turbidity Monitoring Plan*) are recom-

mended, which would require PG&E to update the Turbidity Monitoring Plan to include monitoring and additional BMPs not only for the temporary brine line, but also for the Discharge and Intake Structures, Breakwater, and Marina removal and restoration activities. MM MBIO-3 (*Water Quality Monitoring Plan*) also requires updates to the Turbidity Monitoring Plan to provide protection to receiving waters, adjacent sensitive habitats, and protected species primarily from turbidity during activities associated with any in-water construction activities. Implementation of the updated Turbidity Monitoring Plan would ensure that impacts would be less than significant (Class II).

Alternative 8 would not change salinity impacts related to brine and wastewater discharges occurring under reduced OTC conditions and eventual elimination of OTC (i.e., shutdown of the Discharge Structure), which as discussed for the Proposed Project is not expected to degrade marine water quality or result in an exceedance of the California Ocean Plan salinity requirements and impacts would be less than significant (Class III).

### **Railyards**

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impacts related to degradation of marine water quality.

### **Phase 2**

Alternative 8 may substantially degrade marine water quality from the discharge of debris, increased turbidity, and increased salinity. Most of Phase 2 work would occur on land, and debris would be contained on site. However, Alternative 8 has additional marine demolition work, including removal of the Breakwaters and Marina. The Breakwater and Marina dismantlement would not happen within a cofferdam, and sediment could enter the littoral system. As discussed for Phase 1, MMs MBIO-3 (*Water Quality Monitoring Plan*), HWQ-4 (*Turbidity Monitoring Plan*), and ALT HWQ-5 (*Add Breakwaters and Intake Structure to the Turbidity Monitoring Plan*) would be implemented to ensure that impacts would be less than significant (Class II). In addition, the Discharge and Intake Structures would be fully removed, which as discussed in Impact GEO-6, if not backfilled would create large gaps in the cliff face that would likely result in additional erosion due to wave action and eddies. Erosion would add sediment to the marine environment. However, the coastline in the area outside of the Project area is undeveloped, and the extra sediment would be distributed over a large area. Impacts would be less than significant (Class II).

### **Mitigation Measures for Impact HWQ-3.**

**MBIO-3**      **Water Quality Monitoring Plan.** See Section 4.4.

**HWQ-4**      **Turbidity Monitoring Plan.** See Section 4.11.

**ALT HWQ-5** **Add Breakwaters and Intake Structure to the Turbidity Monitoring Plan.** In combination with MM MBIO-3, at least 30 days prior to installation of the cofferdam around the Intake Structure or demolition of the Breakwaters and Marina, the Applicant or its designee shall update the existing Turbidity Monitoring Plan. The updated plan shall address elevated turbidity associated with removal and restoration of the Intake Structure, Breakwaters, and Marina. The plan shall describe

receiving water turbidity monitoring procedures and identify BMPs to reduce turbidity to ensure compliance with any Clean Water Act permit requirements and standards set in the State Water Resources Control Board's *California Ocean Plan – Water Quality Control Plan for Ocean Water of California*. BMPs shall include, but not be limited to the following:

- Sediment removal prior to placement of cofferdam shall utilize a water lift to remove any sand or sediment and reduce air entrainment and sediment dispersion.

The Applicant or its designee shall submit a copy of the revised Turbidity Monitoring Plan to the San Luis Obispo County Planning and Building for review and approval at least one month before commencing in-water work to document compliance with this measure.

**Impact HWQ-4: Adversely affect the availability of groundwater due to increased water use or excavation dewatering (Class III: Less than Significant).**

### Phase 1

Freshwater is needed from the start of decommissioning to the end of site restoration for domestic water, makeup water, dust suppression, and soil compaction. However, no additional water would be needed for work in the coastal zone under Alternative 8 compared to the Proposed Project.

The DCPD site is not located in an area with a designated groundwater basin (California Department of Water Resources [CDWR], 2021). Furthermore, according to the US Geological Survey, no significant aquifers exist in the area (US Geological Survey [USGS], 1995). At the DCPD site, impacts would be less than significant during decommissioning activities, as the amount of dewatering would be limited, and the local groundwater is not part of any groundwater basin. Based on pumping test results at Well #2, decommissioning activities at the DCPD site would not be expected to adversely affect the availability or usability of groundwater as a water resource. The impact would be less than significant (Class III).

### Railyards

Use of the railyards would continue under Alternative 8, and impacts would be identical to the Proposed Project. No impact would occur at the PBR site, and impacts would be less than significant at the SMVR-SB site (Class III).

### Phase 2

The use of groundwater for final site restoration and landscaping activities would be essentially the same as the Proposed Project. Impacts would be less than significant (Class III).

**Mitigation Measures for Impact HWQ-4.** No mitigation measures are required.

**Impact HWQ-5: Increase soil erosion and sedimentation due to removing structures and/or impervious surface areas, altering drainage patterns, or exceeding the capacity of stormwater conveyance structures (Class II: Less than Significant with Mitigation).**

### Phase 1

To reduce soil erosion and sedimentation, like the Proposed Project, Alternative 8 would be required to comply with the requirements of the CGP and associated site-specific SWPPP (ACs WQ-1 and BIO-3), which are required by regulation. The SWPPP would be developed prior to the start of decommissioning activities and contain BMPs designed to minimize erosion during construction, control sediment and pollutants from construction materials, and stabilize construction areas. The SWPPP would define requirements for monitoring and inspections. The Preliminary Erosion and Sediment Control Plan (see Table 2-2) also identifies BMPs to control erosion of soil and sedimentation from the site during grading (PG&E, 2020a). Additionally, MM EM-2 (*Project Plan Updating, Tracking, and Reporting*) recommended. Compliance with MM EM-2, which includes updating and tracking the Erosion and Sediment Control Plan, SWPPP, associated BMPs, would reduce the risk of erosion and sedimentation to a less-than-significant level (Class II).

The DCP site has a robust existing stormwater conveyance system. During Phase 1 decommissioning activities, the existing stormwater conveyance structures would be utilized to remove stormwater from work areas. Interim culverts and/or swales may be required during phased construction activities to convey stormwater in a non-erosive manner to the ultimate point of discharge. The DCP currently operates under an active IGP, Waste Discharge Identification Number (WDID) 3 40I018248, and ultimately would operate under the CGP during decommissioning activities. The CGP requires development of a SWPPP and implementation of BMPs to direct and control stormwater. Compliance with the SWPPP and use of appropriate BMPs would help control runoff from work areas, including new areas to be removed under Alternative 8, and reduce the risk of exceeding capacity of stormwater conveyance structures to less than significant (Class III).

Unlike the Proposed Project, the void in the cliff left by removal of the Discharge Structure and Intake Structure (if not backfilled) and would leave large gaps in the cliff face. While coastal cliffs erode naturally, such a void within a cliff face without any protective rock would lead to greater rates of erosion which would supply a large amount of sediment to nearshore area. With implementation of MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*), MM ALT GEO-6 (*Intake Structure Backfill and Natural Bluff Site Inspection*), and MM ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan*), which would include monitoring the area of the Discharge and Intake Structures to ensure stability and structural integrity to withstand natural bluff erosion and wave action. While MM GEO-5, MM ALT GEO-6 and MM ALT GEO-7 would lessen the effect, they may not reduce erosion to acceptable levels and be protective of erosion in the coastal zone. Slope failures and prolonged erosion may require maintenance and repair of erosion control measures at the top of the new bluffs. Such repairs are considered speculative at this time, and if they occur would happen in a piecemeal fashion. It is anticipated that any such repairs would occur much further in the future at a time when construction equipment may be cleaner, and regulations may be stricter. Impacts associated with such repairs may include additional air quality and greenhouse gas emissions associated with earth move-

ment, use of construction equipment and trucks; impacts to biological resources in areas that may have otherwise been restored under the Proposed Project; and potential for soil erosion and associated water quality impacts. These impacts would be assessed on a case-by-case basis and the appropriate CEQA documentation completed, as needed the effects of SLR-related erosion would be less than significant (Class II).

### **Railyards**

Use of the railyards would continue under Alternative 8, and impacts would remain less than significant (Class III).

### **Phase 2**

Soil remediation, demolition of remaining structures, and final site restoration would occur as described for the Proposed Project, with the additional removal of the Breakwaters and Marina. Impacts would be reduced to a less-than-significant level by complying with the CGP, SWPPP, and with implementation of MMs EM-2 (*Project Plan Updating, Tracking, and Reporting*), GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*), HWQ-1 (*Prepare and Implement Drainage Plans*), HWQ-2 (*Long-Term Erosion and Sediment Control Plan*), and (Class II).

### **Mitigation Measures for Impact HWQ-5.**

**EM-2**      **Project Plan Updating, Tracking, and Reporting.** See Section 3.

**GEO-5**      **Discharge Structure Backfill and Natural Bluff Site Inspection.** See Section 4.8.

**ALT GEO-6** **Intake Structure Backfill and Natural Bluff Site Inspection**

**HWQ-1**      **Prepare and Implement Drainage Plans.** See Section 4.11.

**HWQ-2**      **Long-Term Erosion and Sediment Control Plan.** See Section 4.11.

**Impact HWQ-6: In flood hazard, tsunami, or seiche zones, increase risk of pollutant release from Project activities or stored materials being inundated from flooding (Class II: Less than Significant with Mitigation).**

### **Phase 1**

As with the Discharge Structure, the Intake Structure would be removed with a cofferdam of adequate design to reduce the potential risk of pollutant release due to inundation from flooding during construction/removal activities. With the removal of the Intake Structure under Alternative 8, from a long-term perspective there would be fewer structures susceptible to flood hazard or tsunami, such that the risk of pollutant release from these events would be less than the Proposed Project and remain less than significant (Class III).

Like the Proposed Project, the Intake Cove would continue to be used for waste transport by barge, as well as for importing materials if the Intake Structure is backfilled. The Intake Cove represents a semi-enclosed body of water where a seiche could occur, thereby increasing the risk of pollutant release. In the event of a spill following a seiche, MM MBIO-8 (*Oil Spill Response Plan*) would reduce potential impacts to a less-than-significant level (Class II).

## Railyards

Use of the railyards would continue under Alternative 8, and impacts would be identical to the Proposed Project. Impacts would be less than significant (Class III) at the PBR site, and there would be no impact at the SMVR-SB site.

## Phase 2

Soil remediation, demolition of remaining structures, final site restoration, and continued Discharge Structure removal and restoration would occur as described for the Proposed Project. With the additional removals of the Breakwater and Marina under Alternative 8, from a long-term perspective there would be fewer structures susceptible to flood hazard or tsunami, such that the risk of pollutant release from these events would be less than the Proposed Project and remain less than significant (Class III). Following removal of the Breakwaters, the Intake Cove would no longer exist and there would be no risk of a seiche.

## Mitigation Measures for Impact HWQ-6.

**MBIO-8 Oil Spill Response Plan.** See Section 4.4.

**Impact HWQ-7: Conflict with implementation of the Basin Plan, or sustainable groundwater management plan as a result of groundwater dewatering or increased water use (Class III: Less than Significant).**

## Phase 1

As with the Proposed Project, Alternative 8 Phase 1 activities would comply with all NPDES permit requirements, including the CGP and SWPPP to reduce pollutants in stormwater runoff during decommissioning activities. No additional groundwater dewatering is expected to remove the Intake Structure and other ancillary structures within the CSLC's jurisdiction. As such, Alternative 8 would not conflict with the Basin Plan and impacts would be less than significant (Class III).

Because there is no Groundwater Sustainability Plan applicable to the DCPD site, Alternative 8 would not conflict with implementation of a sustainable groundwater management plan. No impact would occur.

## Railyards

Use of the railyards would continue under Alternative 8, and no impacts would occur same as the Proposed Project.

## Phase 2

As with the Proposed Project, Alternative 8 Phase 2 activities would comply with all NPDES permit requirements, including the CGP and SWPPP to reduce pollutants in stormwater runoff during decommissioning activities. No additional groundwater dewatering is expected to remove the Breakwaters and Marina. As such, Alternative 8 would not conflict with the Basin Plan. Operations would be limited to the new GTCC Storage Facility, Security Building, and indoor Firing

Range. Water use for these operations would conform to the Basin Plan and impacts would be less than significant (Class III).

**Mitigation Measures for Impact HWQ-7.** No mitigation measures are required.

### Cumulative Impacts

In the marine environment, which is the portion of Alternative 8 that is different than the Proposed Project, water quality impacts would affect the immediate area and become more dispersed and less substantial as distance increases. Cumulative Project #25 (Port San Luis Breakwater Repair) is the only project that could pose a cumulative impact in combination with the in-water components of Alternative 8. It is not in close proximity to the DCPD site, but because it involves a breakwater repair in the same coastal area as Alternative 8, it could contribute to turbidity effects, which would be in addition to any turbidity increase related to Breakwater, Intake Structure, and Discharge Structure removal and restoration as part of Alternative 8. However, because Project #25 is expected to be completed in 2023 and the Discharge Structure, Intake Structure, Breakwater, and Marina removal and restoration elements of Alternative 8 are expected to begin around 2030, no overlap would be anticipated. Any turbidity associated with Project #25 would have settled years prior to activities proposed under Alternative 8.

### ***Public Services and Utilities***

**Impact PSU-5: Generate solid waste that exceeds federal, state, or local standards or the capacity of the solid waste disposal sites (Class III: Less than Significant).**

#### **Phase 1**

This alternative would result in the additional removal of the Intake Structure as part of Phase 1, which would generate on the order of approximately 800,000 cubic feet of additional waste. Despite this increase in waste, the solid waste destinations (US Ecology in Nevada and Idaho and Columbia Gorge Landfills) have sufficient capacity (see Table 4.14-3) for this additional waste. Therefore, although this alternative would generate more waste than the Proposed Project, it would not exceed the capacity of the solid waste disposal sites. Impacts would remain less than significant (Class III).

#### **Railyards**

Use of the railyards would continue under Alternative 8. It is assumed under the alternative the additional waste would be exported off-site by truck or barge (if marine approach). Therefore, impacts at the railyards would remain less than significant (Class III).

#### **Phase 2**

According to Table 5-5, *Estimated Breakwater Material Quantities*, removing the Breakwaters under Phase 2 would result in approximately 8 million cubic feet of waste material, nearly the same amount that would be generated by all on-shore decommissioning activities (approximately 8.7 million cubic feet – see Impact PSU-5 in Section 4.14, *Public Services and Utilities*). As noted for Phase 1, the solid waste destinations (US Ecology in Nevada and Idaho and Columbia

Gorge Landfills) have sufficient capacity (see Table 4.14-3) for this additional waste. Therefore, this alternative would not exceed the capacity of the solid waste disposal sites. Impacts would remain less than significant (Class III).

**Mitigation Measures for Impact PSU-5.** No mitigation measures are required.

### Cumulative Impacts

Cumulative Project #15 (SerraMonte Townhomes) and Project #16 (Workforce Dormitories) are large residential developments that could result in a need for new or altered government facilities. The City of Santa Maria Fire Department, Santa Maria Police Department, County of Santa Barbara Public Works Department, City of Santa Maria Utilities Department, and Santa Barbara County Resource Recovery and Waste Management Division would provide public services and utilities services to these two cumulative projects. The DCPD would not be within the service radius of these departments. Additional waste generated by Alternative 8 would be transported to solid waste destinations outside of these jurisdictions. Therefore, this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to solid waste generation.

### ***Recreation and Public Access***

**Impact REC-1: Cause permanent or temporary, intermittent roadway, parking, or trail closures obstructing upland, shoreline, and water-dependent public access and recreation (Class I: Significant and Unavoidable).**

### **Phase 1**

As with the Proposed Project, on-site decommissioning activities for the CSLC Full Removal Alternative would not displace or interfere with the public's use of upland, shoreline, or water-dependent public access or recreational resources. Due to safety and security concerns, the public currently does not have right of access to the ocean at/from the DCPD site because of federal regulations. Existing public trail access to the Point Buchon Trail and Pecho Coast Trail as required by prior permit conditions would continue in perpetuity north and south of the DCPD site.

Material from the Intake Structure demolition would also need to be moved off site, equating to approximately 12,000 additional truck trips within Phase 1. The additional construction truck trips could result in an estimated 6 to 12 trucks per hour traveling through Avila Beach and Pismo Beach between 9:00 a.m. and 2:00 p.m., four days a week, over the course of several years, which is a substantial increase compared to a few trucks per day estimated for the Proposed Project. The substantial heavy truck traffic sustained over multiple years would conflict with summer beach and tourism activities such as pedestrian and cycling along Avila Beach Drive and create congestion and traffic delays thereby impeding access to local trails and recreational areas. Implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MMs TRA-1 (*Truck Transport Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordi-*



nation with Harbormasters) would help to reduce impacts but not to a less-than-significant level. Therefore, the impact would remain significant and unavoidable (Class I).

## Railyards

Use of the railyards would continue under Alternative 8. Therefore, no impact would occur regarding access to public recreational resources.

## Phase 2

Under Alternative 8, assuming a land-based approach for removal of the Breakwaters, material would be loaded on dump trucks and articulated wheel loaders and transferred to a waste processing facility. This additional removal activity would result in approximately 26,050 additional truck trips from the DCPD site traveling through both Avila Beach and Pismo Beach resulting in potentially up to 14 trips per hour. As noted for Phase 1, this additional truck traffic would create more congestion and traffic delays, especially in the summertime when beach and tourism activities are greatest, thereby impeding access to local trails and recreational areas. Implementation of MM REC-1 along with MM EM-2 and MM TRA-1 through MM TRA-5 and MM TRA-7 would help to reduce impacts but not to a less-than-significant level. Therefore, the impact would remain significant and unavoidable (Class I).

### Mitigation Measures for Impact REC-1.

- REC-1**      **Commercial Fishing Operations Access Plan for Avila Beach Drive.** See Section 4.15.
- EM-2**      **Project Plan, Updating, Tracking, and Reporting.** See Section 3.
- TRA-1**      **Truck Transportation Outside of Peak Hours.** See Section 4.16.
- TRA-2**      **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** See Section 4.16.
- TRA-3**      **Decommissioning Liaison.** See Section 4.16.
- TRA-4**      **Advance Notification of Decommissioning.** See Section 4.16.
- TRA-5**      **Quarterly Decommissioning Updates.** See Section 4.16.
- TRA-7**      **Coordination with Harbormasters.** See Section 4.16.

**Residual Impacts.** Alternative 8 would create a substantial increase in truck traffic, which would conflict with tourism activities in Avila Beach, and impede access to local trails and recreational areas which cannot be fully mitigated.

**Impact REC-2: Restrict access to coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Class I: Significant and Unavoidable).**

## Phase 1

As discussed for Impact REC-1, the additional trucking of demolished materials from the Intake Structure would amount to approximately 12,000 additional truck trips within Phase 1 or an

estimated 6 to 12 trucks per hour traveling through Avila Beach and Pismo Beach. Therefore, impacts to coastal access or other recreational facilities from additional personnel and trucking traffic would be more severe because of the increased duration and frequency of truck trips. Implementation of MM REC-1 along with MM EM-2 and MM TRA-1 through MM TRA-5 and MM TRA-7 would reduce impacts but not to a less-than-significant level. Therefore, the impact would remain significant and unavoidable (Class I).

### **Railyards**

Use of the railyards would continue under Alternative 8. No impact would occur regarding access to public recreational resources.

### **Phase 2**

As discussed for Impact REC-1, assuming a land-based approach for removal of the Breakwaters, approximately 26,050 additional truck trips would originate from the DCPD site and travel through both Avila Beach and Pismo Beach resulting in potentially up to 14 trips per hour. As noted for Phase 1, this additional truck traffic would create more congestion and traffic delays, especially in the summertime when beach and tourism activities are greatest, thereby impeding access to local trails and recreational areas. Implementation of MM REC-1 along with MM EM-2 and MM TRA-1 through MM TRA-5 would help to reduce impacts but not to a less than significant level. Therefore, the impact would remain significant and unavoidable (Class I).

### **Mitigation Measures for Impact REC-2.**

- REC-1**      **Commercial Fishing Operations Access Plan for Avila Beach Drive.** See Section 4.15.
- EM-2**      **Project Plan, Updating, Tracking, and Reporting.** See Section 3.
- TRA-1**      **Truck Transportation Outside of Peak Hours.** See Section 4.16.
- TRA-2**      **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** See Section 4.16.
- TRA-3**      **Decommissioning Liaison.** See Section 4.16.
- TRA-4**      **Advance Notification of Decommissioning.** See Section 4.16.
- TRA-5**      **Quarterly Decommissioning Updates.** See Section 4.16.

**Residual Impacts.** Alternative 8 would create a substantial increase in truck traffic, which would conflict with tourism activities in Avila Beach, and impede access to local trails and recreational areas which cannot be fully mitigated.

**Impact REC-3: Cause increased use or require the construction or expansion of existing local and regional parks or other recreational facilities (Class III: Less than Significant).**

### **Phase 1**

Implementation of the CSLC Full Removal Alternative would prolong activities associated with removal of demolished materials from the Intake Structure and would intensify Phase 1 decom-

missioning activities due to increased personnel and need for additional equipment. However, staffing levels would still be less than the existing conditions of the DCP. Impacts would be less than significant, and no mitigation measures are required (Class III).

### **Railyards**

Use of the railyards would continue under Alternative 8. Therefore, the impact would be less than significant (Class III).

### **Phase 2**

Alternative 8 would prolong activities associated with removal of demolished materials from the Breakwaters and would intensify Phase 2 decommissioning activities due to increased personnel and need for additional equipment. However, staffing levels would still be less than the existing conditions of the DCP. Impacts would be less than significant, and no mitigation measures are required (Class III).

**Mitigation Measures for Impact REC-3.** No mitigation measures are required.

**Impact REC-4: Expose users of recreational facilities to hazards during Project decommissioning (Class II: Less Than Significant with Mitigation).**

### **Phase 1**

Implementation of the CSLC Full Removal Alternative would prolong activities associated with truck transport and removal of demolished materials off site. These additional activities could prolong exposure of users of recreational facilities, including the trailhead and parking area for the Pecho Coast Trail, as well as recreational users of the beach and amenities along Avila Beach Drive, to hazards due to large trucks and equipment entering and exiting Diablo Canyon Road, as well as dust or debris from trucks. More frequent temporary road closures along Avila Beach Drive would be needed to allow truck traffic and equipment access, as discussed for the Proposed Project under Impact REC-1 and Impact REC-2 in Section 4.15, *Recreation and Public Access*. Intermittent road closures would minimize impacts to recreationalists as they would not be able to enter the roads, parking areas, and pathways that would be impacted by truck traffic. With implementation of MM EM-2 and MM TRA-2 through MM TRA-5 impacts would be less than significant with mitigation, same as the Proposed Project (Class II).

### **Railyards**

Use of the railyards would continue under Alternative 8. Therefore, no impact would occur regarding recreational hazards.

### **Phase 2**

Under Alternative 8, removal of the Breakwaters would substantially increase activities in Phase 2 compared to the Proposed Project. Recreational users would therefore be exposed to likely more temporary construction traffic hazards. However, implementation of MM REC-1 along with

MM EM-2 and MM TRA-1 through MM TRA-5 and MM TRA-7 would reduce impacts to less than significant with mitigation, which is the same as the Proposed Project (Class II).

#### **Mitigation Measures for Impact REC-4.**

- EM-2**      **Project Plan, Updating, Tracking, and Reporting.** See Section 3.
- TRA-1**      **Truck Transportation Outside of Peak Hours.** See Section 4.16.
- TRA-2**      **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** See Section 4.16.
- TRA-3**      **Decommissioning Liaison.** See Section 4.16.
- TRA-4**      **Advance Notification of Decommissioning.** See Section 4.16.
- TRA-5**      **Quarterly Decommissioning Updates.** See Section 4.16.

#### Cumulative Impacts

Under this alternative, the potential for cumulative impacts on recreational access and safety would be greater than the Proposed Project because of the additional trucking activity that would occur along Avila Beach Drive. Construction and operation of four cumulative projects along Avila Beach Drive, Project 3 (Avila Beach Drive at Highway 101 Interchange), Project 4 (Flying Flags Campground), Project 5 (Bob Jones Bike Trail), and Project 6 (Avila Beach Resort Phased Expansion), have the potential to temporarily or permanently impact traffic, access, and parking for public recreational facilities. However, only a minor overlap in construction schedules would occur; therefore, temporary, minor delays may occur that could impede public access on Avila Beach Drive. Similar to the Proposed Project, mitigation measures REC-1, EM-2, TRA-1 through TRA-5, and TRA-7 would reduce temporary construction traffic and road closures. Furthermore, given that Phase 2 would begin in 2032, cumulative impacts would be fewer because the four cumulative projects would likely be complete or close to completion by 2032. For this reason, Alternative 8 would not make a considerable contribution to cumulative effects associated with recreation and public access.

#### ***Transportation***

**Impact TRA-1: Conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) related to vehicle miles traveled (VMT); result in a net increase in VMT compared with the existing use (No Impact).**

#### **Phase 1**

As with the Proposed Project, the decommissioning of the DCPP site under this alternative would result in a reduction of VMT due to the decreased number of employees on the site. Therefore, this alternative would result in a decrease in VMT when compared to the existing conditions of the DCPP site. No impact would occur.

The truck trips associated with decommissioning activities are typically not evaluated for the purposes of CEQA due to their temporary nature. However, because of the duration of

decommissioning activities under this alternative, the VMT generated by trucks moving materials to and from the DCPD site has been provided for informational purposes (see Table 5-14).

**Table 5-14. Alternative 8 Project Vehicle Miles Traveled (VMT) Generation**

VMT Generator	Existing Conditions	Phase 1 with Alternative 8	Phase 2 with Alternative 8
<b>DCPP</b>			
Number of DCPD Employees	1,157	864	560
DCPP Employment VMT per Working Day (miles)	56,080	41,612	27,137
<b>Santa Maria Valley Railroad (SMVR-SB) Facility</b>			
Number of Additional Employees	-	10	-
SMVR-SB Employment VMT per Working Day (miles)	-	485	-
<b>Total Passenger Vehicle VMT</b>			
<b>Total VMT per Working Day (miles)</b>	56,080	42,097	27,137
<i>Change from Existing Conditions</i>	-	-25%	-51%
<b>DCPP Decommissioning Truck Activity (information only; not considered as a CEQA impact)</b>			
Total Number of Decommissioning Truck Trips including Alternative 8 activity	-	9,839	27,932
Total Truck VMT per Working Day (miles)	-	5,744	23,120
Total Maximum number of One-Way Daily Truck Trips <sup>1</sup>	-	24	54
<i>Alternative 8 Additional Direct Truck Trips for Intake and Breakwater Removal</i>	-	9,411	26,050
<i>Alternative 8 Truck VMT per Working Day (miles)</i>	-	5,039	22,690
<b>Total VMT Inclusive of Employees and Truck Activity (information only)</b>			
<b>Total VMT per Working Day (miles)</b>	56,080	47,841	50,257
<i>Change from Existing Conditions</i>	-	-15%	-10%

Source: See Appendix I.

<sup>1</sup> Maximum number of one-way daily truck trips is based on the total number of round trips required for hauling activity in each phase, multiplied by 2, and then divided by the number of working days during the phase, which assumes truck activity is limited to Monday through Thursday and excludes holidays. This number of one-way trips is further divided below to estimate a per-hour trip range based on the permissible hours of trucking each day. See Appendix I.

The quantity and round-trip distances of these truck trips are based on assumptions described in Appendix I. These truck trips and their associated distances have been added to the Phase 1 and Phase 2 truck trips of the Proposed Project. As shown in Table 5-14, these additional truck trips, when combined with the VMT generated by the Proposed Project, would still be less than the existing conditions of the DCPD site.

### Railyards

The railyards are not anticipated to be used for the additional activity needed under Alternative 8, and therefore, activities at the railyards would continue to result in no impact.

## Phase 2

As shown in Table 5-14, VMT associated with Phase 2 would be less than existing conditions and would result in no impact.

**Mitigation Measures for Impact TRA-1.** No mitigation measures are required.

**Impact TRA-2: Add traffic to a roadway that has design features that are incompatible with the type of Project vehicles to be used (Class I: Significant and Unavoidable).**

## Phase 1

Like the Proposed Project, the CSLC Full Removal Alternative would allow access to and from the DCPP site via Diablo Canyon Road. As shown in Table 5-14, approximately 9,411 *additional* trucks would transport materials for this alternative under Phase 1 (assumes the land-based approach). These trucks would use Diablo Canyon Road to reach waste destinations, requiring travel through Avila Beach. It is assumed that between 6 and 12 trucks per hour would travel through Avila Beach between 9:00 a.m. and 2:00 p.m., four days a week over the course of several years, which is a substantial increase compared to the few trucks per day estimated for the Proposed Project. The substantial heavy truck traffic sustained over multiple years would not be compatible with the surrounding environment because it would conflict with summer beach and tourism activities such as pedestrian and cycling along Avila Beach Drive. There is no clear opportunity to mitigate the substantial increase in traffic hazards based on this intensity of trucking activity, with trucks already limited to off-peak hours per MM TRA-1 (*Truck Transport Outside of Peak Hours*) and with no alternative routes available.

## Railyards

The railyards are not anticipated to be used for the additional activity needed under Alternative 8, and therefore, activities at the railyards would continue to result in no impact.

## Phase 2

During Phase 2 the East and West Breakwaters would be demolished and removed such that trucking activities would be substantially greater than the Proposed Project (assuming land-based approach as worst-case). Approximately 26,050 *additional* trucks would be required to transport materials for this alternative under Phase 2, with potentially up to 14 trips per hour. As noted for Phase 1, there is no clear opportunity to mitigate the increase in traffic hazards based on this intensity of trucking activity, with trucks already limited to off-peak hours per MM TRA-1 (*Truck Transport Outside of Peak Hours*) and with no alternative routes available. Therefore, the impact would be significant and unavoidable (Class I).

**Mitigation Measures for Impact TRA-2.** No feasible mitigation measures were identified.

**Residual Impacts.** With no feasible mitigation to further reduce heavy truck traffic associated with decommissioning activities, Alternative 8 would contribute to increased traffic hazards. These hazards would conflict with tourism activities in Avila Beach and existing traffic conditions along trucking routes.

**Impact TRA-3: Alter roadway conditions, such as the closure of both lanes of traffic of a roadway that serves as the primary ingress and egress for an area, in a way that would result in inadequate emergency access (Class II: Less than Significant with Mitigation).**

### Phase 1

Like the Proposed Project, this alternative would allow access to and from the DCPD site via Diablo Canyon Road. This alternative would also include MMs TRA-2 through MM TRA-5, which require the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP in consultation with jurisdictions responsible for the relevant public right-of-way, as well as providing a decommissioning liaison, advanced notification and quarterly updates of decommissioning activities to property owners, residences, and businesses along local transportation routes. The TMP would fully define emergency access, would provide direction in the event emergency vehicles need to access the area, and would include the allowable days and times for roadway closures and the necessary traffic control measures needed to implement those closures, and it would appropriately prepare emergency response units to be mobilized on either side of the closure as needed. With the implementation of MMs TRA-2 through TRA-5, Alternative 8 would not result in inadequate emergency access, and the impact would be reduced to a less-than-significant level (Class II).

### Railyards

The railyards are not anticipated to be used for the additional activity needed under Alternative 8, and therefore, activities at the railyards would result in no impact.

### Phase 2

During Phase 2 the East and West Breakwaters would be demolished and removed such that trucking activities would be substantially greater than the Proposed Project assuming the land-based approach. Truck trips would occur outside of peak periods per MM TRA-1, and trucking activities would be intermittent. Any intermittent road closures due to specialty heavy-haul transporters would be covered by the Specialty Heavy-Haul Transport Vehicle TMP per MM TRA-2. This alternative would not result in inadequate emergency access, and with construction of the blufftop road segment the impact would be less than significant with implementation of MM TRA-6 (*Diablo Creek Crossing Inspection and Repair*) (Class II).

**Mitigation Measures for Impact TRA-3.** See Section 4.16 for full text of measures.

- TRA-1      Truck Transportation Outside of Peak Hours**
- TRA-2      Specialty Heavy-Haul Transport Vehicle Transportation Management Plan**
- TRA-3      Decommissioning Liaison**
- TRA-4      Advance Notification of Decommissioning**
- TRA-5      Quarterly Decommissioning Updates**
- TRA-6      Diablo Creek Crossing Structure Inspection and Repair**

**Impact TRA-4: Reduce the existing level of safety for marine vessels because of offshore vessel use (Class II: Less than Significant with Mitigation).**

### **Phase 1**

This alternative includes the removal of the entire Intake Structure during Phase 1, which would generate an estimated 60,000 tons of demolition debris. If transported by barge, this would require approximately 15 barges, requiring 8 roundtrips (where each tug pulls two barges) to Portland and Boardman, Oregon. The removal of the Intake Structure would also require a cofferdam, which would necessitate the transport of gravel utilizing an estimated 22 barges, requiring approximately 22 round trips (where each tug pulls one barge) from the Port of Long Beach over a two-year period from 2028 to 2029. The void created by the removal of the Intake Structure may be left as-is (no backfill) or backfilled. With the additional removal of the water tunnels within the CSLC jurisdiction, the backfill area would increase to an estimated 1,620,000-cubic feet requiring 114,600 1-ton stones (PG&E, 2022b – DR#7, Alternatives 1). An estimated 35 barges requiring approximately 35 round trips (where each tug pulls one barge) would be required to transport rock from Santa Catalina Island. Therefore, the removal of the Intake Structure during Phase 1 is anticipated to require up to 65 round trips, which includes 22 round trips for cofferdam gravel, 8 round trips for debris removal, and 35 round trips for quarry rock for backfill. Additionally, the export of waste from Proposed Project activities during Period 1B (2030-2033) would require 55 barges, which is approximately 28 round trips (each tugboat pulls two barges) to Portland and Boardman, Oregon.

Unlike the Proposed Project, the area of the Discharge Structure would not be backfilled with quarry rock following removal; therefore, this alternative would not require the three round trips for the transport of quarry rock by barge from the Connolly-Pacific Co. Quarry on Santa Catalina Island to the DCPD site during Period 1B (2030-2033). However, a cofferdam would still be required for the Discharge Structure removal, requiring up to 15 barge round trips during Period 1A (2024-2029) for the transport of gravel by barge from the Port of Long Beach to fill the Discharge Structure cofferdam.

Under this alternative, the potential for impacts on marine vessel safety would be greater than the Proposed Project because of the additional 62 round trips that would be required (65 round trips for the Intake Structure cofferdam, debris, and backfill, minus three round trips that would no longer be needed for the Discharge Structure backfill). As with the Proposed Project, barges would travel 50 nautical miles from the coastline, which would minimize interference with other marine vessels. Barge operations are also required to comply with applicable marine vessel safety regulations, including coordination with the US Coast Guard and avoiding or minimizing the crossing of traffic lanes. In addition, similar to the Proposed Project, with implementation of MMs TRA-7 and TRA-8, including coordinating with the harbor masters at local ports and contracting with a marine surveyor to prepare safety assessments, impacts under this alternative would be less than significant with mitigation (Class II).

### **Railyards**

Use of the railyards would continue under Alternative 8, and marine vessels would not be affected by activities at the railyards. Therefore, no impact would occur.



## Phase 2

During Phase 2, the demolition of the Breakwaters would require an estimated 172 barges, which totals approximately 86 round trips (where each tug pulls two barges), to transport materials (cement cap, injected concrete, tribars, and underlying gravel) from the DCPD site. As with the Proposed Project, barges would travel 50 nautical miles from the coastline, which would minimize interference with other marine vessels. Barge operations are also required to comply with applicable marine vessel safety regulations, including coordination with the US Coast Guard and avoiding or minimizing the crossing of traffic lanes. In addition, similar to the Proposed Project, with implementation of MMs TRA-7 and TRA-8, including coordinating with the harbor masters at local ports and contracting with a marine surveyor to prepare safety assessments, impacts under this alternative would be less than significant with mitigation (Class II).

**Mitigation Measures for Impact TRA-4.** See Section 4.16 for full text of measures.

### **TRA-7 Coordination with Harbor Masters**

### **TRA-8 Marine Surveyor Assessment**

#### Cumulative Impacts

**Ground Transportation.** Under this alternative, the potential for cumulative impacts on ground transportation would be greater than the Proposed Project because of the greater number of truck trips to and from the DCPD site required for the full removal of the Intake Structure and Breakwaters. In this case, there could be short-term cumulative effects with related projects such as the construction of the roundabout on Avila Beach Drive at the US-101 ramps given the volume and frequency of truck trips planned, if that phase of the Project were to occur during construction of the roundabout. However, the completed roundabout itself would not preclude the volume of truck trips proposed, and although lasting several years, the increased trucking activity would be temporary and cease with the completion of the decommissioning activities. Therefore, this alternative would not make a lasting contribution to cumulative impacts associated with ground transportation.

**Marine Transportation.** Under this alternative, the potential for cumulative impacts on marine vessel safety would be greater than the Proposed Project because of the 140 additional round trips for barge transport, which includes 54 additional round trips during Phase 1 and 86 additional round trips during Phase 2. However, similar to the Proposed Project, the offshore marine traffic generated by this alternative, although lasting several years, would be temporary and would cease with completion of the decommissioning activities associated with the Proposed Project. This alternative would not make a lasting contribution to cumulative impacts associated with marine traffic. Similar to the Proposed Project, with implementation of MMs TRA-7 and TRA-8, including coordinating with harbor masters at local ports and contracting with a marine surveyor to prepare safety assessments, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

## 5.5 Comparison of Proposed Project and Alternatives

Table 5-15 provides a comparison of the Proposed Project with the seven alternatives evaluated in Section 5.4, *Alternatives Evaluated in this EIR*, with particular focus on those impacts where there are noteworthy differences.

Table 5-15. Comparison of Alternatives

Environmental Resource	Proposed Project	Impacts Compared to the Proposed Project							
		Alternative 1: SAFSTOR	Alternative 2: CSLC No Project	Alternative 3: Minimum Demolition	Alternative 4: Firing Range Minimum Earthwork	Alternative 5: Firing Range Partial Backfill	Alternative 6: No Waste by Rail	Alternative 7: Delayed Decommissioning	Alternative 8: CSLC Full Removal
<b>Aesthetics:</b> Substantially degrade the visual character or quality of the site and its surroundings	Less than Significant (Class III)	Same as Proposed Project	Remains a beneficial effect, but would not fully restore as much of the DCPD site to its natural condition	Visual quality of the site would be lower with buildings remaining at the DCPD site	Remains a beneficial effect but would not fully restore the Firing Range. Avoids use of SE Borrow Site.	Remains a beneficial effect more than Alt. 4 but would not fully restore the Firing Range; avoids use of SE Borrow Site	Same as Proposed Project at DCPD; avoids visual changes and nighttime lighting at SMVR-SB site (fencing, etc.)	Same as Proposed Project	Greatest beneficial effect. Most restoration of DCPD site to natural conditions.
<b>Air Quality:</b> Increase criteria air pollutants and expose sensitive receptors to substantial pollutant concentrations	Less than Significant with Mitigation (Class II)	Less severe due to improved fuel standards over time and greater radiological decay potentially reducing amount of waste for transport	Less severe with fewer structures demolished, decreasing transportation and construction emissions	Much less severe with fewer structures demolished, decreasing transportation and construction emissions	Less severe due to less earthwork at DCPD and less waste transport decreasing emissions	Slightly less severe due to less earthwork and less material hauled off site, decreasing emissions; more severe than Alt. 4	Similar to Proposed Project for DCPD site but reduced to less than significant for the railyards as not used	More severe due to simultaneous building construction and DCPD operations; can be mitigated to a level that is less than significant	More severe due to substantially more structure demolition and additional waste transport
<b>Biological Resources – Terrestrial:</b> Result in permanent and temporary loss of native vegetation communities, ESHAs, or protected wetlands and waters	Less than Significant with Mitigation (Class II)	Vegetation community diversity and abundance or new ESHA designations may change over time	Slightly less severe due to not removing coastal bluff vegetation and designated ESHA adjacent to the Discharge Structure	Less severe due to less ground-disturbance	Less severe due to no ground disturbance at SE Borrow Site and no oak or other native mature tree trimming along access road to SE Borrow Site	No ground disturbance at SE Borrow site and no oak or other native mature tree trimming along access road to SE Borrow site, but adds new ground disturbance from cut adjacent to Firing Range in area of native coyote brush scrub habitat.	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project
<b>Biological Resources – Terrestrial:</b> Establish and/or spread of noxious and invasive weeds	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less severe due to less ground-disturbance	Less severe due to substantially less ground-disturbance	Less severe due to no ground disturbance at SE Borrow Site	Less severe due to no ground disturbance at SE Borrow Site	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project
<b>Biological Resources – Terrestrial:</b> Result in the loss or disturbance to breeding birds or special-status species	Less than Significant with Mitigation (Class II)	Plant and wildlife species diversity and abundance may change over time	Slightly less severe due to less ground-disturbance and leaving coastal bluff habitat around Discharge Structure and potential nesting and roosting sites for birds and special-status bats intact along coastline	Much less severe due to less ground-disturbance and leaving potential nesting and roosting sites for birds and special-status bats intact	Less severe due to no ground disturbance at SE Borrow Site or tree trimming along the access road to SE Borrow Site. Suitable habitat for nesting birds and special-status species (e.g., burrowing owl) at these locations left intact.	Reduction of impacts to habitat associated with the SE Borrow Site and its access road partially offset by additional impacts to coyote brush scrub and wild oats and annual brome grasslands adjacent to the Firing Range.	Less severe due to no activities at railyards. These facilities and adjacent lands support suitable habitat for some nesting birds and special-status species (e.g., monarch butterfly).	Same as Proposed Project	Same as Proposed Project

**Table 5-15. Comparison of Alternatives**

Environmental Resource	Proposed Project	Impacts Compared to the Proposed Project							
		Alternative 1: SAFSTOR	Alternative 2: CSLC No Project	Alternative 3: Minimum Demolition	Alternative 4: Firing Range Minimum Earthwork	Alternative 5: Firing Range Partial Backfill	Alternative 6: No Waste by Rail	Alternative 7: Delayed Decommissioning	Alternative 8: CSLC Full Removal
<b>Biological Resources – Marine:</b> Destroy or degrade marine habitat(s)	Significant and Unavoidable (Class I)	Same as Proposed Project	No impacts to marine biological resources as Project activities would not occur offshore	No impacts to marine biological resources as Project activities would not occur offshore	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	More severe due to disturbance of marine habitat and special-status species
<b>Coastal Processes:</b> Expose structures, workers, and the public to damage or injury due to coastal hazards (flooding, wave runup, tsunamis, bluff erosion and instability), and increases effects of coastal flooding or erosion associated with SLR	Less than Significant with Mitigation (Class II)	Delayed removal of structures may increase exposure to coastal hazards, including SLR; coastal areas would be monitored for stability and hardened shoreline of Marina and backfill of Discharge Structure area reduces effects of SLR	Leaves more structures along shoreline exposed to coastal hazards, including SLR; coastal areas would be monitored for stability and hardened shoreline around DCPP structures reduces effects of SLR	May leave more structures along the shoreline exposed to coastal hazards and effects of SLR; coastal areas would be monitored for stability and hardened shoreline around DCPP structures reduces effects of SLR	Same as Proposed Project	Same as Proposed Project	If more waste is shipped by barge, exposure of workers to coastal hazards increases; increased barge/tugboat use increases risk of pollutant release in the event of a seiche in the Intake Cove. SLR effects are same as Proposed Project.	Same as Proposed Project	Removes more structures along shoreline resulting in greater exposure of construction workers to coastal hazards, especially during removal of the Breakwaters. Not back-filling Discharge or Intake Structure voids could increase bluff erosion and instability; coastal areas would be stabilized to the extent possible without use of shoreline hardening. However, disturbed areas may continue to erode and affect coastal waters resulting in a significant and unavoidable impact (Class I).

Table 5-15. Comparison of Alternatives

Environmental Resource	Proposed Project	Alternative 1: SAFSTOR	Impacts Compared to the Proposed Project						
			Alternative 2: CSLC No Project	Alternative 3: Minimum Demolition	Alternative 4: Firing Range Minimum Earthwork	Alternative 5: Firing Range Partial Backfill	Alternative 6: No Waste by Rail	Alternative 7: Delayed Decommissioning	Alternative 8: CSLC Full Removal
<b>Coastal Processes:</b> Impair nearshore sediment properties, characteristics, or processes or wave, current, or circulation patterns	Less than Significant with Mitigation (Class II)	Same as Proposed Project	No removal of shoreline structures, so much less impact on coastal processes; same localized water circulation effects due to no OTC	Potentially less removal of shoreline structures, so less impact; same localized water circulation effects due to no OTC	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	More shoreline structure removals increases potential for construction activities to affect nearshore coastal processes. Voids left from removal of Discharge and Intake Structures (if not back-filled) could increase bluff erosion and instability and create localized eddy effects subsiding over time. Coastal areas would be monitored for stability. Long-term effects would be eliminated as all shoreline structures removed.
<b>Cultural Resources – Archaeology and Tribal Cultural Resources:</b> Cause a substantial adverse change in the significance of historical or unique archaeological resources or Tribal Cultural Resources, or disturbance of human remains	Significant and Unavoidable (Class I)	Same as Proposed Project	Less severe because no ground disturbance in areas under CSLC jurisdiction	Less severe because no ground disturbance in areas where buildings and structures can remain in place	Less severe because no ground disturbance at SE Borrow Site	Trades off area of SE Borrow site for area immediately adjacent to Firing Range, so similar to Proposed Project	Same as Proposed Project	Same as Proposed Project	More severe because of the additional ground disturbance from removal of Breakwaters and Intake Structure
<b>Greenhouse Gases:</b> Generate substantial GHG emissions	Less than Significant with Mitigation (Class II)	Less severe due to improved fuel standards over time and greater radiological decay potentially reducing amount of waste for transport	Less severe with fewer structures being demolished decreasing transportation and construction emissions	Less severe with fewer structures being demolished decreasing transportation and construction emissions	Less severe due to less earthwork at DCPP and less waste transport decreasing emissions	Slightly less severe due to less earthwork and less material hauled off site, decreasing emissions; more severe than Alt. 4	Rail emissions eliminated, but increased truck use results in greater CO <sub>2</sub> e per mile	More severe due to simultaneous building construction and DCPP operations, but can be mitigated to a level that is less than significant	Much more severe due to substantially more structure demolition and additional waste transport

**Table 5-15. Comparison of Alternatives**

Environmental Resource	Proposed Project	Impacts Compared to the Proposed Project							
		Alternative 1: SAFSTOR	Alternative 2: CSLC No Project	Alternative 3: Minimum Demolition	Alternative 4: Firing Range Minimum Earthwork	Alternative 5: Firing Range Partial Backfill	Alternative 6: No Waste by Rail	Alternative 7: Delayed Decommissioning	Alternative 8: CSLC Full Removal
<b>Hazardous Materials:</b> Expose people or schools to non-radiological hazardous materials from existing sources or accidental release; expose workers or public to Valley Fever	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less severe because of less ground disturbance and waste transport from fewer structure removals	Less severe because of less ground disturbance and waste transport from fewer structure removals	Same as Proposed Project	Same as Proposed Project	Similar to Proposed Project because impacts from railyard operations would be diverted to truck and barge routes; impacts to schools reduces from Class III to no impact	Same as Proposed Project	Much more severe because of more ground disturbance and higher volumes of waste generated from more structure removals
<b>Hazardous Radiological Materials:</b> Cause exposure of workers, public, or environment to radiological materials resulting in a failure to comply with applicable regulations	Less than Significant (Class III)	Radiological hazards would decrease slightly due to radioactive decay over 60 years, but would still meet the same regulatory cleanup standards	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project, but no impact at railyards	Additional nuclear fuel would need to be procured and brought to the site for continued operations, but would be handled per NRC regulations resulting in the same impacts as the Proposed Project	Same as Proposed Project
<b>Hydrology and Water Quality:</b> Degrade marine water quality, including increasing turbidity and debris, or exceeding the California Ocean Plan salinity requirements, or reducing dissolved oxygen concentrations	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less impact as no removal of shoreline structures	Potentially less removal of shoreline structures so less impact	Same as Proposed Project	Same as Proposed Project	Voids left from removal of Discharge and Intake Structures (if not backfilled) could increase bluff erosion and instability; coastal areas would be monitored for stability.	Same as Proposed Project	More construction in marine area substantially increases potential to degrade marine water quality and increase turbidity, but mitigable; no impacts would occur related to Marina operations
<b>Hydrology and Water Quality:</b> Increase soil erosion and sedimentation due to removing structures and/or impervious surface areas, alter drainage patterns, or exceed capacity of stormwater conveyance structures	Less than Significant (Class III)	Same as Proposed Project	Slightly less area affected as fewer structures removed	Slightly less area affected as fewer structures removed	Avoids use of the SE Borrow Site and involves the least earthwork reducing potential erosion, sedimentation, and drainage alteration impacts	Avoids use of the SE Borrow Site reducing potential erosion, sedimentation, and drainage alteration impacts, but less so than Alt. 4 with grading adjacent to Firing Range	Same as Proposed Project	Same as Proposed Project	Voids left from removal of Discharge and Intake Structures (if not back-filled) could increase bluff erosion and instability; coastal areas would be stabilized to the extent possible without use of shoreline hardening. However, disturbed areas may continue to erode and effect coastal waters

Table 5-15. Comparison of Alternatives

Environmental Resource	Proposed Project	Alternative 1: SAFSTOR	Alternative 2: CSLC No Project	Impacts Compared to the Proposed Project					
				Alternative 3: Minimum Demolition	Alternative 4: Firing Range Minimum Earthwork	Alternative 5: Firing Range Partial Backfill	Alternative 6: No Waste by Rail	Alternative 7: Delayed Decommissioning	Alternative 8: CSLC Full Removal
<b>Hydrology and Water Quality:</b> Increase risk of pollutant release in flood hazard, tsunami, or seiche zones	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Structures along coastline would not be removed reducing risk; fewer barges and tugboats used reduces risk of pollutant release in the event of a seiche in the Intake Cove	Structures along coastline may not be removed reducing risk; potentially fewer barges and tugboats used reduces risk of pollutant release in the event of a seiche in the Intake Cove	Same as Proposed Project	Same as Proposed Project	If more waste is shipped by barge, risk of pollutant release in the event of a seiche in the Intake Cove increases	Same as Proposed Project	resulting in a significant and unavoidable impact (Class I). More barge/tugboat trips increases risk of pollutant release in the event of a seiche in the Intake Cove; long-term risks are eliminated as Intake Cove and Marina removed and no operational in-water activities
<b>Land Use and Planning:</b> Disrupt or displace an existing land use	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Same as Proposed Project with some reduction in waste transport; impact remains less than significant with mitigation	Substantial reduction in waste transport but impact remains less than significant with mitigation	Same as Proposed Project	Same as Proposed Project	Temporary land use disruptions would be avoided along the railyard transport routes. Significant but mitigable impact would still occur in the Avila Beach community	Same as Proposed Project	Increase in waste transport, but impact remains less than significant with mitigation
<b>Noise:</b> Cause a substantial temporary or permanent increase ambient noise levels or exceed established standards	Less than Significant with Mitigation (Class II)	Identical or less than Proposed Project during SAFSTOR, but ultimately could be greater noise impacts due to potential for more development and sensitive receptors	Less onshore work which could reduce intensity or duration but expected to generate same noise and vibration levels at DCP and railyards. Avoids offshore activities	Substantial reduction in duration and intensity but expected to generate same noise and vibration levels at DCP and railyards. Avoids offshore activities	Similar noise and vibration levels to Proposed Project, but intensity of earthwork at DCP may decrease slightly	Similar noise and vibration levels to Proposed Project, but intensity of earthwork at DCP may decrease slightly (but not as much as under Alternative 4)	Same impacts at DCP but eliminates impacts from railyard modifications and operations	Same as or slightly greater due to simultaneous building construction and DCP operations, as well as sensitive receptors in the surrounding community	Generates double the noise associated with haul truck traffic but would result in the same impact levels as the Proposed Project
<b>Public Services and Utilities:</b> Exceed capacity of solid waste disposal sites	Less than Significant (Class III)	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Less severe due to no impact at railyards	Same as Proposed Project	Demolition of Intake Structure and Breakwaters would generate more solid waste but would not exceed capacity of disposal sites

**Table 5-15. Comparison of Alternatives**

Environmental Resource	Proposed Project	Alternative 1: SAFSTOR	Alternative 2: CSLC No Project	Impacts Compared to the Proposed Project					
				Alternative 3: Minimum Demolition	Alternative 4: Firing Range Minimum Earthwork	Alternative 5: Firing Range Partial Backfill	Alternative 6: No Waste by Rail	Alternative 7: Delayed Decommissioning	Alternative 8: CSLC Full Removal
<b>Recreation and Public Access:</b> Cause permanent, temporary or intermittent roadway, parking, or trail closures or otherwise restrict access to upland, shoreline, and water-dependent public access and recreation	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less severe due to fewer truck trips that would temporarily interfere with public and recreational access	Less severe due to fewer truck trips and personnel at the DCPP site that would temporarily interfere with recreational access	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Increases impact to significant and unavoidable due to additional truck trips from DCPP site that would temporarily interfere with public and recreational access
<b>Recreation and Public Access:</b> Expose users of recreational facilities to hazards	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less severe due to fewer truck trips that would temporarily expose recreational users to hazards	Less severe due to fewer truck trips that would temporarily expose recreational users to hazards	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	More severe due to additional truck trips from DCPP site that would temporarily expose recreational users to hazards
<b>Transportation:</b> Add traffic to a roadway that has design features that are incompatible with the type of Project vehicles to be used	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Increases impact to significant and unavoidable due to prolonged and intense levels of heavy truck activity
<b>Transportation:</b> Alter roadway conditions, such as the closure of both lanes of traffic of a roadway that serves as the primary ingress and egress for an area, in a way that would result in inadequate emergency access	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Same as Proposed Project	Construction of blufftop road segment may be precluded by the remaining buildings reducing impact to less than significant; secondary emergency access benefit of having this road segment would not occur	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Eliminates reuse of the Marina and its emergency access needs



**Table 5-15. Comparison of Alternatives**

Environmental Resource	Proposed Project	Impacts Compared to the Proposed Project							
		Alternative 1: SAFSTOR	Alternative 2: CSLC No Project	Alternative 3: Minimum Demolition	Alternative 4: Firing Range Minimum Earthwork	Alternative 5: Firing Range Partial Backfill	Alternative 6: No Waste by Rail	Alternative 7: Delayed Decommissioning	Alternative 8: CSLC Full Removal
<b>Transportation – Marine:</b> Reduction in the existing level of safety for marine vessels because of offshore vessel use	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less severe because the transport of fill by barge for the Discharge Structure removal and cofferdam would not be required, resulting in a reduction of 18 round trips (15 round trips during Period 1A and 3 round trips during Period 1B)	Less severe because the transport of fill by barge for the Discharge Structure removal and cofferdam would not be required, resulting in a reduction of 18 barge trips (15 round trips during Period 1A and 3 round trips during Period 1B)	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	More severe because of up to 65 additional barge round trips to dispose of demolition debris for the Intake Structure (8), cofferdam fill material (22), and backfill (35) in Phase 1 offset by a reduction of 3 barge trips for Discharge Structure backfill. Plus, an estimated 86 additional round trips to remove Breakwater demolition materials by barge during Phase 2.

### 5.5.1 Environmentally Superior Alternative

State CEQA Guidelines section 15126.6, subdivision (e)(2), states, in part, that an EIR shall identify an environmentally superior alternative among the other alternatives “if the environmentally superior alternative is the ‘No Project’ alternative” (emphasis added). Table 5-15 compares the Proposed Project impacts with those of the alternatives.

Two “No Project” alternatives were considered: SAFSTOR Alternative and CSLC No Project Alternative. The SAFSTOR Alternative would delay decommissioning by up to 60 years, allowing for slightly greater radiological decay and considering the potential for advancements in technology for construction equipment may result in fewer air quality and GHG emissions in the future. Ultimately, however, removal of the structures at the DCPP site would occur and all the impacts would happen and be similar, if not the same, as the Proposed Project. While environmentally superior to the Proposed Project, the County must consider the delay that would occur, limiting any potential development of the DCPP site for an extended period.

The CSLC No Project Alternative provides a similar benefit of delaying structure removals. This alternative eliminates removal of the structures with the CSLC’s jurisdiction, including the Discharge Structure, Intake Structure, Breakwaters, Marina, storage facility, office facilities, intake electrical room, intake maintenance shop, equipment storage pad, and spare tri-bar storage facilities. As such, impacts on the marine environment (other than during closure of the Intake Structure) would be avoided, and impacts associated with removal of onshore structures would be reduced, as some would be left in place. This alternative requires CSLC to issue a new lease to PG&E with ultimate disposition delayed indefinitely. While environmentally superior to the Proposed Project, without plans for future use of the remaining structures, these facilities would become an ongoing maintenance issue and may limit future development of the DCPP site.

Of the remaining action alternatives, the Minimum Demolition Alternative (Alternative 3) would be environmentally superior, as it drastically reduces the amount of demolition required and associated impacts. However, similar to the CSLC No Project Alternative, leaving existing structures in place without plans for future use would lead to ongoing maintenance issues, including safety and those related to coastal erosion and sea-level rise, and may limit future development of the DCPP site. Additionally, the visual quality of the site would be lower than under the Proposed Project, leaving the site littered with abandoned structures that may or may not be reused under a future site reuse scenario (see Section 8).

Of the remaining alternatives, which all generally implement the Proposed Project but with various modifications, Alternative 5, Firing Range Partial Backfill Alternative, would be environmentally superior. By eliminating the need to use the undisturbed, SE Borrow Site to fill the Firing Range, this alternative reduces the amount of site disturbance by 6 acres (102 acres vs. 96 acres) and eliminates the approximately 3,800 one-way on-site truck trips between the SE Borrow Site and the Firing Range. While the original, natural conditions in the Firing Range area would not be fully achieved, positive drainage would be maintained. This alternative would have slightly more earth movement than Alternative 4, Firing Range Minimum Earthwork Alternative, but would result in a long-term, greater beneficial aesthetic impact, as the Firing Range area would be partially backfilled. Additionally, Alternative 5 more closely aligns with the County of San Luis

Obispo Local Coastal Program, Coastal Plan polices, including Visual and Scenic Resource Policy 1: Protection of Visual and Scenic Resources and Policy 5: Landform Alterations (see Section 4.1, *Aesthetics* - Table 4.1-1). Erosion-related impacts related to hydrology and water quality and geology and soils would all be reduced by not cutting into the hillside at the SE Borrow Site and avoids additional ground disturbance in a hillside that is otherwise pristine. Furthermore, all terrestrial biological resources impacts related to oak tree trimming along the road to the SE Borrow Site and impacts to the vegetation at the SE Borrow Site would be avoided. As such, the Firing Range Partial Backfill Alternative (Alternative 5) is considered the environmentally superior alternative.