3. Assessment Methodology (Phases 1 and 2)

3.1 Introduction

Consistent with the State CEQA Guidelines, this section presents the methodology used for evaluating and identifying potential environmental impacts associated with the Proposed Project (see Section 2, *Project Description (Phases 1 and 2))*. The Proposed Project includes the Diablo Canyon Power Plant (DCPP), Pismo Beach Railyard (PBR; backup waste transfer site for non-hazardous, non-radiological waste), and the Santa Maria Valley Railyard (SMVR) facility site known as Betteravia Industrial Park (SMVR-SB; waste transfer site). The Proposed Project would also utilize offshore barge routes and adjacent roads and highways for transport of materials and decommissioning waste. The evaluation approach presented below describes how changes in the environment will be assessed resulting from the decommissioning of the DCPP facility and modifications and operation of the SMVR-SB site and potentially the PBR site.

3.2 Impact Analysis Methodology

An EIR is required to describe physical environmental conditions in the vicinity of a project in order to provide a baseline for comparison to determine potential project impacts and gauge their significance (State CEQA Guidelines, §15125). Use of an appropriate baseline is also important for establishing alternatives to the proposed activities that can be analyzed in an EIR. The alternatives must be capable of reducing or avoiding one or more significant impacts of a project, but do not need to address impacts associated with existing conditions. The County must identify which parts of the Proposed Project are known or reasonably foreseeable; if it finds that a particular component of the Project is too speculative for evaluation, the County should note its conclusion and terminate discussion of the impact (State CEQA Guidelines, §15145).

3.2.1 Baseline Conditions

Baseline conditions are defined as the existing physical environmental setting by which a lead agency determines whether an impact is significant (State CEQA Guidelines, §15125, subd. [a]). A significant environmental effect or impact is defined as a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the Project (Pub. Resources Code, §§21068, 21100, subd. (d); State CEQA Guidelines, §15382).

Potential impacts are often analyzed in the context of the local and regional physical environmental conditions existing at the time a Notice of Preparation for a project EIR is released (in this case, October 28, 2021). For the Proposed Project, baseline conditions include the local and regional physical environmental conditions as they exist now, as well as the existing operations at the DCPP, PBR, and SMVR-SB sites. In addition, the existing physical setting or baseline consists of actions completed or initiated by PG&E related to the on-site spent nuclear fuel storage, including California Coastal Commission approvals related to the existing Independent Spent Fuel Storage Installation and prior approval by the California Public Utilities Commission regarding shutdown of the DCPP facility. Baseline conditions also include ongoing maintenance. Therefore, impacts addressed in the EIR are based on a comparison of existing operations of the DCPP, PBR, and SMVR-SB sites to anticipated Proposed Project activities.

3.2.2 Regulatory Setting

Each environmental issue is considered in the context of federal, state, regional, and local laws, regulations, and policies applicable to each issue. Appendix C summarizes applicable federal and state laws, regulations, and policies. Each environmental issue section identifies applicable regional and local laws, regulations, and policies (see Section 1.3, *Legal and Governmental Authority,* for a summary of federal, state, and local responsibilities, including federal preemption, related to nuclear power plants).

3.2.3 Significance Criteria

Each environmental issue has significance criteria, which serve as benchmarks for determining if a Proposed Project component or activity would result in significant adverse environmental impacts when evaluated against baseline conditions. A significant effect on the environment means "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (State CEQA Guidelines, § 15382). Significance criteria relevant to each environmental issue were drawn from a variety of sources, including Appendix G of the State CEQA Guidelines and applicable local regulatory agency policies and standards indicated within each issue-area evaluated in Section 4 of this EIR. Some impact categories in this EIR lend themselves to scientific or mathematical analysis and quantification, while others are more qualitative. Some issues, such as air quality, have significance thresholds established by agencies with regulatory authority for that resource. Significance criteria selection and the determination of impact significance are based on the independent judgment of the County of San Luis Obispo as the CEQA lead agency.

3.2.4 Impact Analysis

The terms "effect" and "impact" used in this document are synonymous and can refer to effects that are either adverse or beneficial.

- **Direct effects:** Effects caused by the Proposed Project that occur at the same time and place as the Proposed Project.
- **Indirect effects:** Effects caused by the Proposed Project that occur later in time, or further in distance, but are still reasonably foreseeable.
- **Cumulative impacts:** Impacts resulting from the Proposed Project when combined with similar effects of other past, present, and reasonably foreseeable future projects, regardless of which agency or person undertakes such projects (cumulative impacts could result from individually insignificant but collectively significant actions taking place over time).

The significance of the impact is determined based on an analysis of the impact, compliance with any recommended mitigation measures, and the level of impact remaining compared to the applicable significance criterion. Impacts are classified by the categories listed below.

- **Class I: Significant and Unavoidable** – A substantial or potentially substantial adverse change from the environmental baseline that meets or exceeds significance criteria, where either no feasible mitigation can be implemented, or the impact remains significant after implementation of mitigation measures.

- **Class II: Less than Significant with Mitigation** – A substantial or potentially substantial adverse change from the environmental baseline that can be avoided or reduced to below applicable significance thresholds with implementation of mitigation measures.
- **Class III: Less than Significant** – An adverse impact that does not meet or exceed the significance criteria of a particular environmental issue area and, therefore, does not require mitigation.
- **Class IV: Beneficial** – An impact that would result in an improvement to the physical environment relative to the environmental baseline.
- **No Impact:** A change that results in no impact on the environment relative to the environmental baseline.

The analysis in this EIR is prepared with the understanding that PG&E would obtain all required permits and approvals from other agencies and comply with all legally applicable terms and conditions associated with those permits and approvals. In addition, the laws, regulations, and standards for decommissioning a nuclear generating facility would be applied consistently to the Proposed Project. Implementation of the Proposed Project, which is described in Section 2, *Project Description (Phases 1 and 2)*, including implementation of mitigation measures identified to reduce or avoid significant adverse impacts, would be monitored in accordance with a Mitigation Monitoring Program (summarized below).

3.2.5 Mitigation Monitoring and Reporting

An EIR is required to indicate the way significant effects on the environment resulting from project implementation can be mitigated or avoided; a governmental agency must prevent significant, avoidable damage to the environment by requiring changes in projects through the use of mitigation measures or project alternatives (discussed below) when the agency finds the changes to be feasible (CEQA, § 21002.1, subd. [a] & [b]; State CEQA Guidelines, § 15002, subd. [a]). Implementation of multiple mitigation measures may be needed to reduce an impact to a less-than-significant level. Impacts that still meet or exceed significance criteria after application of mitigation measures are considered residual impacts that remain significant.

The County will be responsible for monitoring compliance with mitigation measures adopted pursuant to this EIR, project conditions of approval, and Applicant Commitments (as specified in Project Description Section 2.6) throughout decommissioning. One important step in monitoring is defining the responsibility of the Applicant to support this process. Mitigation Measure EM-1 defines the County's role in this process as required to support all other mitigation measures defined in this EIR. In addition, Mitigation Measure EM-2 outlines the Applicant's role in managing compliance by requiring plan updating, tracking, and proof of implementation of project-specific plans as identified by the Applicant in Section 2 (*Project Description*).

EM-1 **Applicant Funding for County Environmental Monitoring Team and Role.** At least 6 months prior to the Applicant's submittal of any construction permits related to decommissioning, the Applicant shall provide funding for the County of San Luis Obispo to retain an environmental monitoring team to ensure compliance with County Conditions of Approval, and the EIR Mitigation Monitoring and Reporting Plan.

The County's environmental monitoring team shall include manager and assistant monitor(s) (up to 2) to assist with mitigation and project condition oversight. The environmental monitoring team shall prepare and execute a monitoring management plan addressing condition compliance tracking and mitigation monitoring for all DCPP decommissioning activities, as specified in a project-specific scope of work.

The County monitoring plan shall address all phases of the Project including mitigation measures and conditions of approval that extend beyond decommissioning (e.g., success of revegetation). The monitoring management plan shall require updating at Phase 2 of the Decommissioning Project. This County monitoring management plan will include: (1) goals, responsibilities, authorities, and procedures for verifying compliance and coordinating with the Applicant's compliance team; (2) lines of communication and reporting methods; (3) a compliance report tracking system for requirement oversight which includes tracking the updated Applicant-prepared plans in EM-2; (4) verifying construction crew trainings regarding environmental sensitivities; (5) protocols regarding authority to stop work; and (6) action to be taken in the event of non-compliance. The County environmental monitor and their team shall be employed by or under contract to the County of San Luis Obispo. Costs of the monitoring team, monitoring assistants, and any County administrative fees, shall be paid by the Applicant.

The Applicant shall also be responsible for funding compliance work as required by mitigation measures and conditions specifying use of individuals with special expertise (e.g., botanist, wildlife biologist) and for coordinating with resource agencies. The County's environmental monitoring team will coordinate with the Applicant's specialists to ensure monitors are available at appropriate times (prior to issuance of construction permits, or during decommissioning, as required by individual mitigation measures presented in Section 4). In addition, the County's environmental monitoring team shall coordinate and communicate with resource agencies (i.e., CDFG, USFWS, ACOE) regarding project–related requirements. The monitoring team may also be tasked with monitoring implementation of responsible or resource agency requirements if desired by the agencies and coordinated through the County.

EM-2 **Project Plan Updating, Tracking, and Reporting.** Prior to the Applicant's submittal of any applications for decommissioning-related construction permits to County Building, the Applicant or its designee shall update all applicable Project-specific plans that were submitted in support of this application and develop a Plan Tracking and Reporting Form to identify and ensure that applicable recommendations in the plans will be implemented throughout the Project. The Tracking Form shall include (at minimum): agencies involved with or that have oversight on each plan; which agency is lead; deadline or trigger for plan requirement(s); tracking and updating intervals; and information on how missed deadlines on approval or reporting will be handled.

Plan Updating: The updated or new plans shall be submitted to San Luis Obispo County Planning and Building for review and approval at least 30 days prior to the submittal of permit applications to County Planning and Building for any decommis-

sioning activities or issuance of any permits. No County construction permits shall be issued until the Applicant's updated plans are approved and the County's Environmental Monitoring Management Plan has incorporated tracking of the updated Applicant's plans.

All applicant previously-submitted and County-accepted Project-specific plans, programs, and procedures shall be updated to reflect the final decommissioning Project. If a plan is addressed by another mitigation measure, then requirements of that mitigation measure apply and take precedence over this requirement. At a minimum, the following plans shall be updated:

- Discharge Structure Demolition and Restoration Plan
- Operating, Monitoring, and Maintenance Plan
- Revegetation Plan
- Site Grading and Concrete Re-use Strategy Plan

Plan Tracking and Reporting: Prior to issuance of any decommissioning-related County construction permits, the Applicant or its designee shall submit the final Plan Tracking and Reporting Form to the County for review and approval, along with copies of the updated plans. Throughout the duration of the Project, the Applicant or its designee shall document and report the Project activities requiring implementation of the recommendations identified in the plans. Records should include, at a minimum, a brief description of the Project activity, date(s) of activities, and applicable plan recommendations that were implemented. Reporting shall include notification to County Planning and Building of any violations or issues that arise under each plan and how the issue was resolved. At the end of each year, by November 15 (no later than December 1), the Applicant or its designee shall submit the Plan Tracking and Reporting Form to the County along with documentation of any plan changes, as proof of implementation. The timeframe for submittal of the form may be modified as determined by the County.

3.3 Cumulative Projects

Cumulative effects are impacts from related projects that would occur in conjunction with the Proposed Project. This section provides the methodology, list, and locations of other projects near the DCPP, railyards, and barge route used to determine the cumulative impacts associated with the Proposed Project. Cumulative impacts are analyzed in each issue area in EIR Sections 4.1 through 4.17. Relevant cumulative projects are identified in Section 3.3.2, *Relevant Cumulative Projects*, and in Table 3-1, and the locations are shown in Figures 3.1-1a and 3.1-1b.

3.3.1 Methodology

Information was collected on similar projects in the vicinity of the Proposed Project and barge route. These projects are in the planning stages, adopted, under construction, or completed and have impacts with the potential to combine with similar impacts caused by the Proposed Project,

thereby contributing to cumulative impacts. The following list describes the types of projects considered as part of the cumulative scenario.

- Approved and planned development projects in Avila Beach near Avila Beach Drive.
- Approved and planned development projects in the City of Pismo Beach and County of Santa Barbara located within approximately 1 mile of the railyards.
- Approved and in-progress offshore and onshore energy projects near the proposed barge route project.

The respective jurisdictions in which each cumulative project is located, the responsible agency reviewing or permitting the project (e.g., California State Lands Commission, Bureau of Ocean Energy Management), or online information for private developments was used in identifying key details regarding the cumulative projects. The information was current at the time it was provided by each jurisdiction, agency, or developer between the end of 2021 and beginning of 2022.

3.3.2 Relevant Cumulative Projects

Research was conducted in coordination with the following jurisdictions, agencies, and developers to compile the list of cumulative projects. These jurisdictions, agencies, and developers were considered the most likely source of past, present, and future projects that could contribute to cumulative impacts given their proximity to the Proposed Project and barge route. Table 3-1 summarizes the planned projects in the vicinity of the Proposed Project.

Orano System ISFSI Modifications. As stated in Section 1.2.2, *ISFSI Approval and Cask Design*, the DCPP's existing dry cask storage system at the ISFSI is the Holtec International (Holtec) HI-STORM 100 System. As of December 2021, there are a total of 1,856 SNF assemblies stored within the DCPP ISFSI. The SNF assemblies are stored within 58 Holtec HI-STORM 100 vertical casks (out of 140 total possible), with 32 SNF assemblies per cask (Stantec, 2022; NRC, 2021). In 2018, the California Public Utilities Commission (CPUC) adopted a settlement agreement between PG&E and multiple parties that found it would be more cost-effective to pursue a different dry cask storage system at the ISFSI if it could reduce the time associated with removing the SNF from the existing Spent Fuel Pools (see Section 1.2.2, *ISFSI Approval and Cask Design*). PG&E selected the Orano NUHOMS EOS System (Orano System) due to its design meeting DCPP-specific parameters such as seismic requirements, high heat load, and 80-year design life (Stantec, 2022). The Orano System is also expected to reduce worker exposure to radiation by more than half compared to the Holtec System (PG&E, 2022). The existing DCPP ISFSI would be modified to accommodate the new Orano System through removal of the existing dry cask baseplates and installation of Orano's horizontal storage module arrays. As described in Section 1.2.2, *ISFSI Approval and Cask Design*, SNF would be transferred to the ISFSI from approximately 2025 through 2029. Upgrading the ISFSI pad for the new Orano System is scheduled to start in 2025 and be completed by 2026 to facilitate the transfer of remaining SNF by 2029, thus occurring during Phase 1 of the Proposed Project (Orano, 2022). The modifications to the ISFSI are discussed in greater detail than the projects listed in Table 3-1 due to its proximity to the Proposed Project and concurrent schedule with Phase 1 activities.

The ISFSI modifications to support the Orano System involve the construction of precast horizontal storage modules (HSMs) and preparation of the existing ISFSI pad for the HSMs. The HSMs would be precast in a separate location, then heavy hauled to the existing ISFSI for final installation using a gantry crane. Approximately 384 truck trips are estimated for the hauling of the HSM precast components, construction materials, and equipment (Stantec, 2022 – Attachment A – Trucking Emissions (Air Basin) table). Preparation of the existing ISFSI pad includes extraction of the existing cask baseplates on ISFSI pad #3 through pad #7. After the cask baseplates are removed, the ISFSI pad would be levelled using G38 Diamond Grinders (or similar equipment) with water slurry tankers. This process is expected to be completed within one week. The four array HSMs would then be placed aboveground on the existing ISFSI pad (Orano, 2022). Each HSM would be constructed as a vault of reinforced concrete with stainless steel heat shields within the interior surrounding the canister. Each HSM would be approximately 25 feet long by 20 feet tall, with 4-foot-thick roof and front and rear walls. Passive air vents would allow air to cool the canisters through convection. The HSMs would be placed side-by-side in a row on the ISFSI pad. Two rows of HSMs would be placed back-to-back into blocks, with an access corridor between blocks or HSMs to allow for future access, if needed (Stantec, 2022). For the Orano site concept, see Figure G2-1, *NUHOMS® Installation Concept at DCPP*, in Appendix G2, *Radioactive Materials Transportation Experience and Risk Assessments*.

The Orano System uses a horizontally oriented dry shielded canister, where each canister can hold up to 37 SNF assemblies (as compared to the 32 SNF assemblies held by the existing Holtec canisters). The SNF would be loaded directly from the Spent Fuel Pools into the dry shielded canisters and transferred to a transfer cask for transport to the ISFSI using Orano's proprietary transfer vehicle(s). At the ISFSI, the dry shielded canisters would be loaded into an HSM using a proprietary Orano hydraulic transfer system.

Table 3-1. Cumulative Projects Located Near the DCPP Decommissioning Project

ID#	Project Name	Location	Description and Status
COUNTY OF SAN LUIS OBISPO / AVILA BEACH			
1	Orano System ISFSI Modifications	DCPP Site	See full description above table.
2	Communications Facility	Assessor's Parcel Number (APN) 076-171-016	Construction of communications facility on Diablo Canyon Road. **Status:** Application on hold (since Nov. 2018), not accepted to process.
3	Avila Beach Drive at Highway 101 Interchange	Avila Beach Drive and Shell Beach Road intersection	Replace the traffic stop-controls at the southbound ramp and Shell Beach Road intersection with a single-lane roundabout. Install traffic calming features approaching the roundabout, including along the northbound off-ramp. Provide a park-and-ride lot with bus stop. **Status**: Construction to begin mid-2023 and conclude mid-2025.
4	Flying Flags Campground	6420 Babe Lane, Avila Beach	Develop 60 recreational vehicle (RV) spaces, 31 RV cabin units, 20 hotel/motel cabins, 33 car/tent campsites, 22 walk-in/bike-in campsites, 16,000-sq. ft. visitor-serving commercial uses, harbor use areas, restrooms, and 48,000-sq. ft. parking lot. **Status:** RV park is partially open; 12 RV, 15 cabin sites, water

Table 3-1. Cumulative Projects Located Near the DCPP Decommissioning Project

ID#	Project Name	Location	Description and Status
			tank, and visitor center still need to be constructed. County Permit applications for Welcome Center buildings, commercial kitchen, and pool have not yet been submitted.
5	Bob Jones Trail Construction	From Ontario Road Trailhead in Avila Beach and Highway 101 to the Octagon Barn Trailhead (4595 S Higuera St)	Construct a connection trail between the existing 2.5-mile trail from Avila Beach to Highway 101 and a 1-mile segment from Prado Road to Los Osos Valley Road in the City of San Luis Obispo. **Status**: Construction anticipated April 2023 to April 2025.
6	Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit	APNs 076-181-032, 076-181-039, 076-181-061, and 076-205-001 Immediately north of Avila Beach Drive adjacent to the community of Avila Beach, situated at the edge of San Luis Bay where San Luis Creek flows to the Pacific Ocean	Phased Development Plan and Coastal Development Permit to construct hotel accommodations and related facilities. Includes a request for exception to allow additional business and access signage areas and request to modify road improvement standards along Avila Beach Drive. Would disturb approximately 17 acres with approximately 14,700 cubic yards of cut and 18,100 cubic yards of fill. **Status:** Notice of Preparation for the Draft EIR released; 30-day review period ended January 3, 2023.
CITY OF PISMO BEACH			
7	Signal at Bello Street and Price Canyon Road	Bello Street and Price Canyon Road	Install a signal at Bello Street and Price Canyon Road and improve sidewalk. **Status:** In Planning Process.
8	U.S. 101 Pismo Congestion Relief Project	San Luis Obispo County on U.S. 101 through the Pismo Beach corridor from post mile 16.0 to R22.5.	Reconstruct approximately 4 miles of the inside left shoulder of U.S. 101 for use as a part-time travel lane during peak traffic. **Status:** Construction anticipated June 2024 to December 2027 but could be delayed to 2026-2029.
9	Public Safety Center	Wadsworth and Bello Road	Construct a new fire station on Bellow Street and expand the police department into the old fire station. **Status**: Planned for Fiscal Year (FY) 2023.
10	Bello Road Paving	Bello Road from Wadsworth to Price Canyon	Paving improvements to Bello Road from Wadsworth to Price Canyon Road. **Status:** Planned for 2023.
11	Price Street Sidewalk Pavers	Downtown sidewalks along Price Street	Install pavers on downtown sidewalks on Price Street. **Status:** Planned for FY 2026.
12	Realign Frady Lane	Frady Lane and Ford Field	Straighten Frady Lane to route between baseball fields and railroad tracks. Repurpose old road alignment for parking, park, and corporation yard access. **Status:** Planned for FY 2025.
13	Storm Drain on Wadsworth from Bello to Judkins Middle School	Bello Street to Judkins Middle School	Install Phase III of the Wadsworth storm drain improvements per the Stormwater Master Plan drainpipe from Bello Street to Judkins Middle School and inlets near Judkins. **Status:** Planned for FY 2025.
CITY OF SANTA MARIA (In Vicinity of Proposed Truck Route)			
14	Westgate Marketplace	Northwest corner of Blosser Road and W. Battles Road	68,000-sq. ft. commercial center. **Status**: Planning permit expired on 12/15/2021.

Table 3-1. Cumulative Projects Located Near the DCPP Decommissioning Project

ID#	Project Name	Location	Description and Status
15	SerraMonte Townhomes	2065 S. Blosser Road	81 townhome units. **Status:** Planning permit expired on 3/20/2022.
16	Workforce Dormitories	1900 block of S. A Street	127.96-acre workforce housing dormitories. **Status**: Planning permit under review.
COUNTY OF SANTA BARBARA			
17	Highway 101 – Betteravia Road Interchange	Highway 101/Betteravia Road interchange	Improve northbound ramps in the southeast quadrant of the interchange. **Status:** Project construction to start FY 2031/32.
OFFSHORE/ENERGY PROJECTS			
18	Vandenberg Offshore Wind Energy Projects	Offshore: West side of the Vandenberg State Marine Reserve within 3 miles of the State boundary. Onshore: Parallel to the coastline within Vandenberg State Marine Reserve between the Santa Ynez River and Point Arguello Port: Port Hueneme	Install and operate four floating offshore wind turbines. Port Hueneme may be the preferred port location for the assembly, construction, and deployment of vessels, equipment, and building materials. **Status**: Preliminary planning process.
19	South Ellwood Project	Platform Holly, approximately 2 miles southwest of Goleta coast	Plug and abandon wells at Platform Holly. **Status**: In progress. Anticipated to be completed in 2023.
20	Rincon Onshore and Offshore Facilities	Rincon Island, approximately 0.6 mile south of Mussel Shoals, 5750 W. Pacific Coast Highway, Ventura	Phase 1 complete. Phase 2 consists of a Feasibility Study completed in August 2022, and an Environmental Impact Report (EIR) that is anticipated to be finalized in 2023. Phase 3 is anticipated to begin after the California State Lands Commission approves a decommissioning project and certifies the EIR. Decommissioning could include causeway removal or retention and reuse of the island and onshore site. **Status**: Phase 2 work underway; Notice of Preparation released; scoping completed in October 2022.
21	Chumash Heritage Marine Sanctuary Project	Along the Central California coastline, from Santa Rosa Creek in Cambria to Gaviota Creek in Santa Barbara. Bounded to the west by Santa Lucia Bank; to the east by mean high tide line.	Designate a portion of the Central California Coastline as the Chumash Heritage National Marine Sanctuary to protect historic, archaeological, cultural, aesthetic, and biological resources. **Status**: National Oceanic and Atmospheric Administration published Notice of Intent in November 2021. Public scoping process occurred from November 2021-January 2022, and draft documents are being prepared for release in December 2022 for review in the first quarter of 2023.
22	Morro Bay Wind Energy Area	Approximately 20 miles offshore the Central California coastline containing approximately 376 square miles.	Designate wind energy area to allow for development of offshore wind off the coast of Morro Bay in Central California. **Status:** On December 7, 2022, Bureau of Ocean Energy Management (BOEM) completed offshore wind lease sales of five lease areas covering 373,268 total acres off central and northern California. The leased areas have the potential to produce over 4.6 gigawatts of offshore wind energy, enough to power over 1.5 million homes.

Table 3-1. Cumulative Projects Located Near the DCPP Decommissioning Project

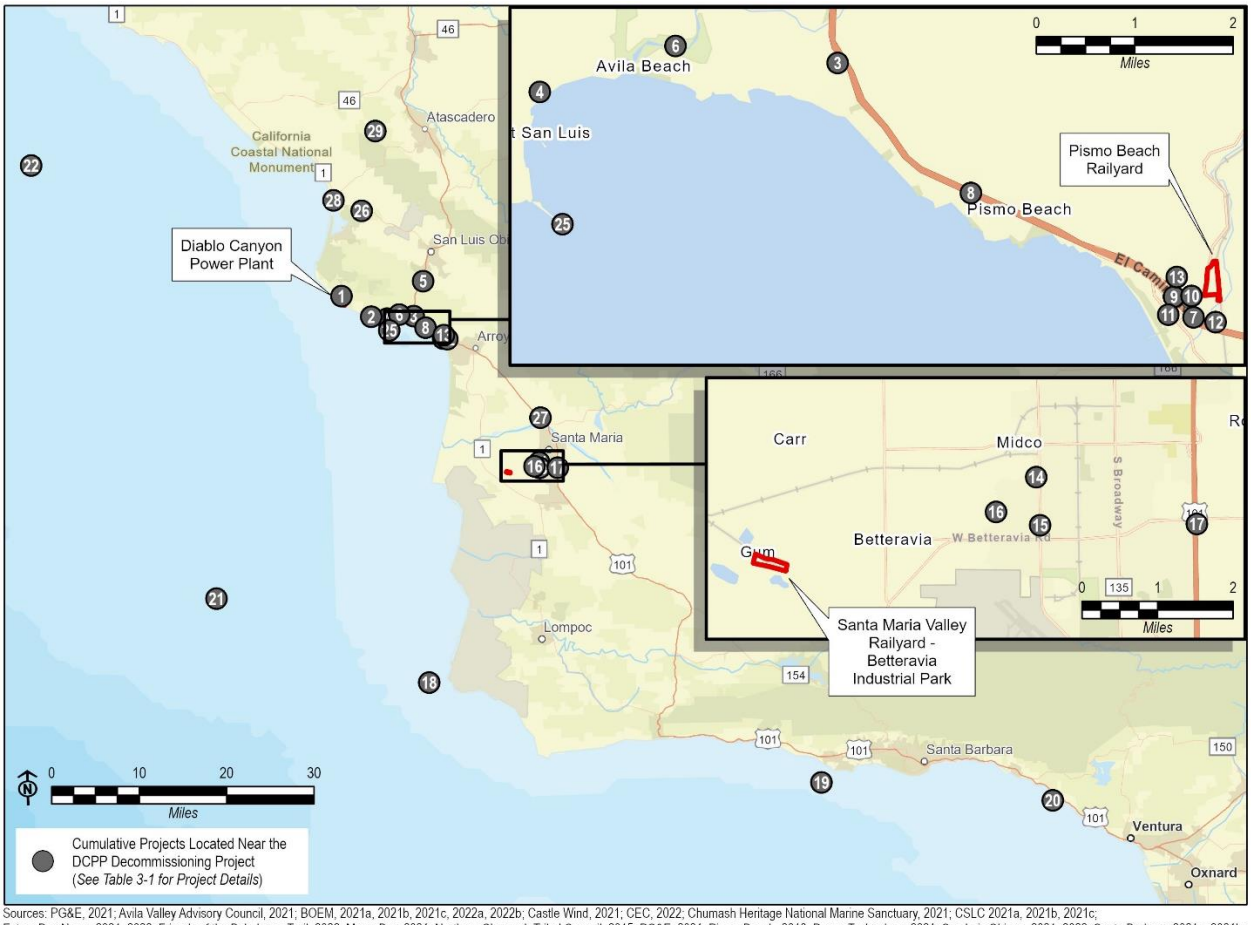
ID#	Project Name	Location	Description and Status
23	Humboldt Wind Energy Area	Approximately 21 miles offshore from the City of Eureka in Humboldt County, California, containing approximately 206 square miles.	Designate wind energy area to allow for development of offshore wind off the coast of Eureka in Northern California. **Status**: Final Environmental Assessment and Findings of No Significant Impacts released May 2022.
24	PacWave South Project	Approximately 6 nautical miles off Newport, Oregon	Construct approximately 2.65-square-mile open ocean wave energy project with a capacity up to 20 MW. **Status**: Lease issued in February 2021.
25	Port San Luis Breakwater Repair	Approximately 0.5 mile offshore southeast of Point San Luis Lighthouse	Repair breakwater in Port San Luis with the use of a barge. Repairs usually last about six months and avoid the spring season. **Status:** Next repair expected in 2023.
26	Pecho Energy Storage Center	2284 Adobe Road, San Luis Obispo County	Construct a 400-MW, 3,200-MW-hour advanced compressed air energy storage facility capable of flexibly charging and discharging daily as well as on a real-time basis. Major equipment includes four all-electric air compressor trains, four 100-MW air-driven power turbine generators, heat exchangers, thermal heat storage, and underground compressed air storage cavern, an above-ground water reservoir, auxiliary facilities, and a 3.5-mile electrical interconnection to the existing Morro Bay Switching Station. **Status**: Under review.
27	Bluff Trail Battery Energy Storage System	Immediately southeast of the existing Pacific Gas & Electric Mesa Substation on Joshua Street	Construct and operate a 500-MW utility-scale battery energy storage facility consisting of batteries housed in enclosures, associated on-site support facilities, fencing, access roads, and drainage features. Install a 230-kilovolt overhead generation transmission line that would extend approximately 500 feet from the project site to the Mesa Substation. **Status:** Information Hold process.
28	Vistra Energy Battery Energy Storage System	Former Morro Bay Power Plant site at 1290 Embarcadero, Morro Bay	Construct and operate a 600-MW battery energy storage facility housed in three 91,000-square-foot buildings on 22 acres. **Status:** Planned to operate by 2024.
29	Whale Rock Pumped Storage Hydro Project	Approximately 6 miles northeast of Whale Rock in San Luis Obispo County	Construct a pumped storage power facility with a capacity ranging from 600 to 1500 MW and storage duration ranging from 8 to 48 hours. Build a new upper reservoir to store 4,700 acre-feet of water. **Status:** Applied for Preliminary Permit Application in 2022.

Sources: Avila Valley Advisory Council, 2021; BOEM, 2021a, 2021b, 2021c, 2022a, 2022b, 2022c; CEC, 2022; Chumash Heritage National Marine Sanctuary, 2021; CSLC 2021a, 2021b, 2021c; Estero Bay News, 2021, 2022; Friends of the Bob Jones Trail, 2022; Morro Bay, 2021; National Oceanic and Atmospheric Administration (NOAA), 2022; Northern Chumash Tribal Council, 2015; PG&E, 2021; Pismo Beach, 2018; Power Technology, 2021; San Luis Obispo, 2021, 2022a, 2022b; Santa Barbara, 2021a, 2021b; SLOCOG 2021; US Department of the Interior, 2022.

Figure 3.1-1a. Overall Map of Cumulative Projects

Sources: PG&E, 2021; Avila Valley Advisory Council, 2021; BOEM, 2021a, 2021b, 2021c, 2022a, 2022b; Castle Wind, 2021; CEC, 2022; Chumash Heritage National Marine Sanctuary, 2021; CSLC 2021a, 2021b, 2021c; Estero Bay News, 2021, 2022; Friends of the Bob Jones Trail, 2022; Morro Bay, 2021; Northern Chumash Tribal Council, 2015; PG&E, 2021; Pismo Beach, 2018; Power Technology, 2021; San Luis Obispo, 2021, 2022; Santa Barbara, 2021a, 2021b; Santa Maria, 2021; SLOCOG 2021.

Figure 3.1-1b. Inset Maps of Cumulative Projects



Sources: PG&E, 2021; Avila Valley Advisory Council, 2021; BOEM, 2021a, 2021b, 2021c, 2022a, 2022b; Castle Wind, 2021; CEC, 2022; Chumash Heritage National Marine Sanctuary, 2021; CSLC 2021a, 2021b, 2021c; Estero Bay News, 2021, 2022; Friends of the Bob Jones Trail, 2022; Morro Bay, 2021; Northern Chumash Tribal Council, 2015; PG&E, 2021; Pismo Beach, 2018; Power Technology, 2021; San Luis Obispo, 2021, 2022; Santa Barbara, 2021a, 2021b; Santa Maria, 2021; SLOCOG 2021.