

**CALENDAR ITEM  
INFORMATIONAL  
64**

A	17		04/05/16
		W26721, PRC 4307.1, PRC 4449.1	
S	35		P. Huber, C. Oggins

**INFORMATIONAL UPDATE RELATED TO THE APPLICATION BY PACIFIC GAS  
AND ELECTRIC COMPANY FOR A GENERAL LEASE – INDUSTRIAL USE FOR A  
COOLING WATER DISCHARGE CHANNEL, WATER INTAKE STRUCTURE,  
BREAKWATERS, AND ASSOCIATED INFRASTRUCTURE AT THE DIABLO  
CANYON POWER PLANT, NEAR AVILA BEACH, SAN LUIS OBISPO COUNTY**

**APPLICANT:**

Pacific Gas and Electric Company  
142 Cross Street, Suite 200  
San Luis Obispo, CA 93401

**BACKGROUND:**

On August 28, 1969, the State Lands Commission (Commission) authorized issuance of a 49-year lease to Pacific Gas and Electric Company (PG&E) for the water intake structures and breakwaters associated with the Diablo Canyon Power Plant (DCPP), a nuclear power plant located near Avila Beach, San Luis Obispo County (PRC 4307.1; Minute Item 17). This lease expires on August 27, 2018. On May 28, 1970, the Commission authorized issuance of a 49-year lease to PG&E for a cooling water discharge channel associated with the DCPP (PRC 4449.1; Minute Item 8). This lease expires on May 31, 2019. DCPP Units 1 and 2 operate under U.S. Nuclear Regulatory Commission (NRC) licenses that expire on November 2, 2024, and August 26, 2025, respectively.

At its December 18, 2015 public meeting, the Commission directed staff to defer action ([Calendar Item 123](#)) on a lease application submitted by PG&E requesting termination of the two existing leases and issuance of a new General Lease – Industrial Use for the continued use and maintenance of water intake structures, breakwaters, cooling water discharge channel, and other structures associated with the DCPP. In addition, the Commission directed staff to analyze the level of review required under the California Environmental Quality Act (CEQA) and as trustee pursuant to the Public Trust Doctrine related to PG&E's application for a new lease.

At its February 9, 2016 meeting, the Commission heard an informational item ([Calendar Item 83](#)) concerning the application. Since the February 9<sup>th</sup> meeting, the Commission has received numerous inquiries about which agencies are involved in DCPP relicensing. This staff report summarizes the agency approvals

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required by the NRC for license renewal, and those needed to continue operations at, or alternatively decommission, the DCPD.

**NRC LICENSE RENEWAL:**

The NRC has approval authority for DCPD license renewal pursuant to the Atomic Energy Act (42 United States Code [USC] 2011 et seq.). In 2009, PG&E submitted a license renewal application to the NRC. The NRC is conducting an environmental review under the National Environmental Policy Act (NEPA) and held two public scoping meetings in August 2015. Although PG&E has advised Commission staff that a formal decision whether to continue to seek NRC relicensing of the DCPD has not been made, the NRC process to evaluate PG&E's application for license renewal is currently moving forward. Agency approvals that the NRC requires for DCPD license renewal are listed in Table 1.

**Table 1. Summary of Authorizations: NRC License Renewal**

Agency	Requirement/Authority	Remarks
<b>Federal</b>		
U.S. Fish and Wildlife Service (USFWS)	Consultation under Endangered Species Act Section 7 (16 USC 1536)	Requires federal agency issuing a license to consult with USFWS.
<b>State</b>		
California Coastal Commission	Certification under Federal Coastal Zone Management Act (16 USC 1452 et seq.)	Requires applicant to obtain Coastal Development Permit and certification that license renewal would be consistent with the Federally approved State Coastal Zone Management program.
Central Coast Regional Water Quality Control Board	Certification under Clean Water Act Section 401 (33 USC 13411)	State issuance of National Pollutant Discharge Elimination System (NPDES) permit constitutes 401 certification.
State Office of Historic Preservation	Consultation with State Historic Preservation Officer (SHPO) under National Historic Preservation Act Section 106 (16 USC 470f)	Requires federal agency issuing a license to consider impacts to historical properties and consult with the SHPO, who must concur that license renewal will not affect any sites listed or eligible for listing.

Source: Included as Table 9-2 of PG&E's license renewal application filed with the NRC.

It is important to recognize that the NRC's requirements to relicense the DCPD differ from PG&E's requirements to operate the DCPD. The NRC has informally informed Commission staff that the relicensing requires approval from only the four agencies listed in the table above. However, in order to operate the DCPD, PG&E must comply with all applicable laws and obtain any required permits or leases. Given that, PG&E must also obtain new leases from the Commission.

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**DCPP OPERATIONS THROUGH 2025:**

In order to continue to operate through the end of its NRC licenses, PG&E needs new interim Commission leases through August 2025. This is the only State approval that PG&E needs in this timeframe. Approvals necessary for current operations, which would also likely be required for continued operations, are listed in Table 2 below.

**Table 2. Summary of Existing Authorizations: Current Operations**

<b>Federal</b>
<ul style="list-style-type: none"><li>• Nuclear Regulatory Commission, License to Operate</li><li>• Bureau of Land Management, Right-of-Way</li><li>• National Marine Fisheries Service, Biological Opinion and Incidental Take Statement</li></ul>
<b>State/Local</b>
<ul style="list-style-type: none"><li>• State Lands Commission, Leases</li><li>• Central Coast Regional Water Quality Control Board, NPDES Permit</li><li>• State Water Resources Control Board, State General Industrial Storm Water Discharge permit</li><li>• Department of Fish and Wildlife, License and Special Use Permit (for benthic kelp removal)</li><li>• Department of Toxic Substances Control, Waste Treatment Storage and Disposal Permit (for Operation of Hazardous Waste Facility at DCPD)</li><li>• San Luis Obispo County Environmental Health Department, Permits to Operate</li><li>• San Luis Obispo County Public Health Department, Non-Community Drinking Water System Permit</li><li>• San Luis Obispo County Air Pollution Control District, Permits to Operate</li></ul>

Source: Modified from Table 9-1 of PG&E's license renewal application filed with the NRC.

**DCPP DECOMMISSIONING:**

Should PG&E seek to decommission the DCPD, the Commission would coordinate with multiple agencies; however, identifying which and how each agency would be involved, and who would be the CEQA lead agency for the DCPD decommissioning project, would be determined based on how PG&E proposed to decommission the facility. Table 3 identifies the permit approvals potentially needed to implement decommissioning activities.

**Table 3. Summary of Potential Authorizations: DCPD Decommissioning**

<b>Agency</b>	<b>Permit/Approval</b>	<b>Notes</b>
<b>Federal</b>		
Nuclear Regulatory Commission	License termination (via approval of license termination plan submitted by PG&E)	Establishes final cleanup standards; formally terminates license.
U.S. Army Corps of Engineers (USACE)	Clean Water Act Section 404 permit	Dredge and fill waters of the United States.

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**Table 3. Summary of Potential Authorizations: DCPD Decommissioning**

<b>Agency</b>	<b>Permit/Approval</b>	<b>Notes</b>
U.S. Fish and Wildlife Service (USFWS) and	Endangered Species Act Incidental Take Authorization	USACE will consult with USFWS to determine if potential impacts to listed species and their critical habitat may occur.
National Marine Fisheries Service (NMFS)	Magnuson-Stephens Fishery Conservation and Management Act/ Endangered Species Act Incidental Take Authorization	USACE will consult with NMFS to determine if the project would adversely affect critical habitat for listed fish species and essential fish habitat.
U.S. Environmental Protection Agency (EPA)	Concurrence on license termination plan under specific circumstances defined in the NRC/EPA Memorandum of Understanding	NRC will consult with the EPA when (1) radioactive groundwater is in excess of EPA's maximum contaminant limits; (2) NRC contemplates either restricted release or use of alternative criteria for license termination; or (3) hazardous materials are involved that are not under NRC jurisdiction.
<b>State/Local</b>		
State Lands Commission	Lease termination	Lease requires restoration of site upon decommissioning.
California Coastal Commission	Coastal development permit (CDP)	CDP required for development in coastal zone.
California Department of Fish and Wildlife	Informal consultation, consistency determination with USFWS/NMFS or 2081 Incidental Take Authorization	For species potentially affected that are both state and federal-listed.
California Department of Toxic Substances Control	Statement of basis to select final remedial actions; additionally, administers state hazardous waste management regulations	Lead state oversight agency for soil remediation.
Central Coast Regional Water Quality Control Board	Waste discharge requirements, NPDES permit, construction storm water permit. Section 401 water quality certification	Required for wastewater discharges to surface water or land.
San Luis Obispo County Planning and Building Department	CDP, Grading permit	CDP for development within the LCP jurisdiction of the Coastal Zone, grading permit.

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### **MODIFICATIONS FOR ONCE-THROUGH-COOLING (OTC) COMPLIANCE:**

On May 4, 2010, the State Water Resources Control Board (SWRCB) approved a policy (OTC Policy) requiring operators of California power plants, including the DCP, that were withdrawing State coastal and estuarine waters using a single-pass system (also known as “OTC”) to come into compliance with technology-based standards to reduce the harmful effects associated with cooling water intake structures on marine and estuarine life by 2024.<sup>1</sup> The OTC Policy included recommendations made by the California Independent System Operator, California Energy Commission (CEC), and California Public Utilities Commission (CPUC) to achieve water quality goals while ensuring electrical grid reliability. After Office of Administrative Law approval on September 27, 2010, the OTC Policy became an effective regulation on October 1, 2010. The OTC Policy requires modifications to the DCP for any operations after 2025.

The SWRCB determined that the best available technology to minimize or eliminate impingement mortality and entrainment impacts associated with OTC was closed-cycle evaporative cooling (which transfers waste heat to the surrounding air through water evaporation, thus enabling reuse of a smaller amount of water several times to achieve the desired cooling effect). This was established as a benchmark for two compliance tracks. (A plant can also comply by terminating operations.)

- Track 1: Reduce the intake flow rate at each power-generating unit to a level that can be attained with a closed-cycle evaporative cooling system. A minimum of 93% reduction is required compared to the design intake flow rate.
- Track 2: If compliance with Track 1 is not feasible, reduce impingement mortality and entrainment for the facility as a whole to 90% of Track 1 reductions, using operational or structural controls, or both.

A PG&E submittal to the SWRCB<sup>2</sup> states that converting to a closed-cycle wet cooling system is economically infeasible based on the costs listed below:

- freshwater wet or dry cooled towers – \$8.6 to \$14.1 billion, plus \$50 to \$86 million annually for operation, maintenance, and other costs; or
- saltwater towers – \$6.2 to \$8 billion, plus \$98 to \$120 million annually for operation, maintenance, and other costs; compared to
- screening technology options (Track 2) – \$456 to \$675 million.

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<sup>1</sup> Most power plants that obtain cooling water from surface water sources use some method of primary screening to prevent large objects from being drawn through the cooling system. *Impingement* occurs when organisms are trapped against the screen as a result of the force of the intake water and are unable to escape. *Entrainment* is the action of drawing smaller objects through the entire cooling water system.

<sup>2</sup> Bechtel's Assessment of Alternatives to Once-Through-Cooling for DCP, September 12, 2014, [www.waterboards.ca.gov/water\\_issues/programs/ocean/cwa316/rcnfpp/docs/pgebechcom\\_091214.pdf](http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/rcnfpp/docs/pgebechcom_091214.pdf).

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PG&E has informally informed Commission staff that modifications to the DCPD necessary to comply with the OTC Policy might trigger the need to file a license amendment request (LAR) at the NRC to request authority to operate the DCPD with modifications (a fact-specific analysis under 10 Code of Federal Regulations Part 50.59 would determine if a LAR is necessary). Table 4 identifies other approvals that may be needed to modify the DCPD, for example, to install closed-cycle wet cooling. Activities related to site mobilization, physical site access, and construction would require environmental review under CEQA, NEPA, and the California Coastal Act.

**Table 4. Summary of Potential Authorizations: DCPD Modifications**

<b>Agency</b>	<b>Permit/Approval</b>	<b>Notes</b>
<b>Federal</b>		
U.S. Army Corps of Engineers (USACE)	Clean Water Act Section 404 permit	Dredge and fill waters of the United States.
U.S. Fish and Wildlife Service (USFWS)	Endangered Species Act Incidental Take Authorization	USACE will consult with USFWS to determine if impacts to listed species and their critical habitat may occur.
National Marine Fisheries Service (NMFS)	Magnuson-Stephens Fishery Conservation and Management Act/Endangered Species Act Incidental Take Authorization	USACE will consult with NMFS to determine if modifications would adversely affect critical habitat for listed fish species and essential fish habitat.
<b>State/Local</b>		
State Lands Commission	May require amendment to existing lease(s)	Action depends on modifications proposed.
California Coastal Commission	Coastal development permit (CDP)	CDP required for development in coastal zone.
California Department of Fish and Wildlife	Informal consultation, consistency determination with USFWS/NMFS or 2081 Incidental Take Authorization	For species potentially affected that are both state and federal-listed.
Central Coast Regional Water Quality Control Board	(1) Waste discharge requirements, construction storm water permit, Section 401 water quality certification. (2) Amendment to NPDES permit	(1) Required for wastewater discharges to surface water or land. (2) Required for modifications to OTC System.
San Luis Obispo County Planning and Building Department	CDP, Grading permit	CDP for development within the Local Coastal Program (LCP) jurisdiction of the coastal zone, grading permit.
San Luis Obispo County Air Pollution Control District	Construction Permit	Permit for construction activities that generate fugitive dust/emissions.

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### **OTHER AGENCY ROLES/UPDATES:**

**State Water Resources Control Board**. The SWRCB has scheduled an informational item on DCPD OTC issues and PG&E's compliance efforts for its September 7, 2016 Board meeting; no action will be taken at the meeting. Staff will have a better idea on future steps following the SWRCB meeting.

**California Public Utilities Commission**. The CPUC would review any PG&E application seeking ratepayer funding associated with DCPD relicensing, decommissioning, or modifications.

**California Energy Commission**. The CEC staff has informed Commission staff that it will continue to fulfill its core responsibilities with respect to California's operating and decommissioned nuclear power reactor sites, which includes preparation of a biennial *Integrated Energy Policy Report (IEPR)*.<sup>3</sup> According to CEC staff, in fulfilling this legislative mandate, the CEC regularly evaluates—and takes appropriate responsive action regarding possible federal decision-making that would impact California's existing nuclear power reactor sites, environmental resources, and public health and safety, including relicensing. Many of these policy issues revolve around seismic concerns and the associated risk of long-term storage of spent nuclear fuel in California. The *2015 IEPR* Chapter 7 outlines the CEC's current recommendations on California's nuclear power reactor sites. Due to the risk of a beyond design basis seismic event, an important policy recommendation from the current and previous *IEPRs* is that spent fuel be transferred to dry casks as expeditiously as possible to reduce the density of spent fuel assemblies stored in the cooling pools. Key Diablo Canyon recommendations are: provide updates on NRC's license renewal; complete planned studies on ground motion at the Diablo Canyon site; report annually on spent nuclear fuel storage; and fully address all comments of the Independent Peer Review Panel on seismic hazards at Diablo Canyon.

On February 19, 2016, the CEC released a Notice of Request for Public Comments on the Scoping Order for the Draft *2016 IEPR Update*. Among other topics, the *2016 IEPR Update* will consider the potential greenhouse gas benefits of Diablo Canyon but also take into account the broader issues associated with nuclear power, such as waste, seismicity, and safety. The CEC will hold public workshops on IEPR topics, including nuclear, between April and December 2016.

### **EXHIBIT:**

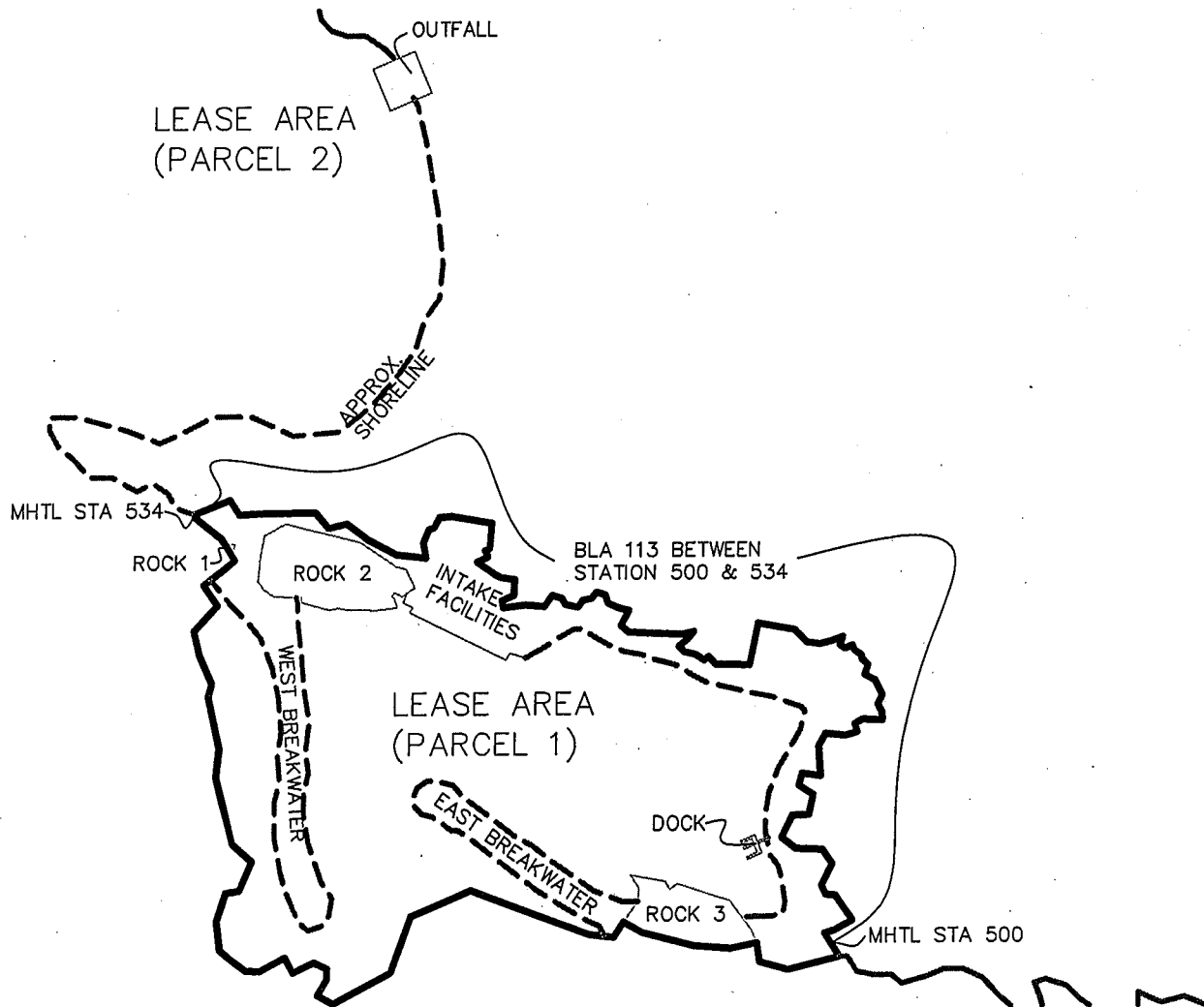
- A. Site and Location Map

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<sup>3</sup> See [www.energy.ca.gov/energypolicy/](http://www.energy.ca.gov/energypolicy/) and [www.energy.ca.gov/commission/fact\\_sheets/fact\\_sheets.html](http://www.energy.ca.gov/commission/fact_sheets/fact_sheets.html). The *IEPR* assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The CEC Chair serves as the California State Liaison Officer to the NRC and appoints one of three members to the [Diablo Canyon Independent Safety Committee](#).

NO SCALE

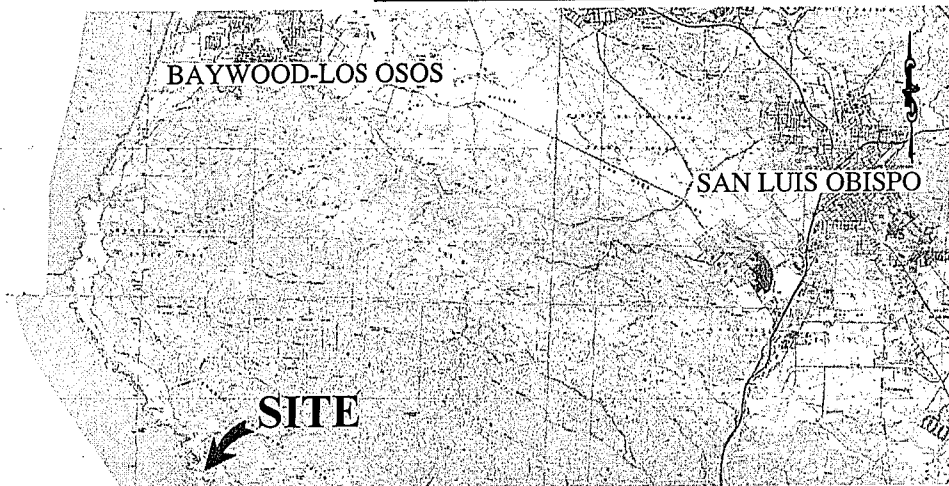
## SITE



Diablo Canyon NPP, south of Baywood-Los Osos, Pacific Ocean

NO SCALE

## LOCATION



MAP SOURCE: USGS QUAD

This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.

## **Exhibit A**

W 26721  
PG&E  
GENERAL LEASE -  
INDUSTRIAL USE  
SAN LUIS OBISPO COUNTY



MJF 2/01/16