

# A. Introduction

This Draft Environmental Impact Report (Draft EIR) has been prepared by the California Public Utilities Commission (CPUC) as Lead Agency under the California Environmental Quality Act (CEQA), and is meant to inform the public and meet the needs of local, State, and federal permitting agencies that are considering the Project proposed by Pacific Gas and Electric Company (PG&E, or “the Applicant”). The EIR addresses the potential environmental impacts of the Proposed Project, but does not make a recommendation regarding its approval or denial. It is purely informational in content, and will be used by the CPUC in considering whether or not to approve the Project as proposed or an alternative.

On January 9, 2004, PG&E filed an application (A.04-01-009) and a Proponent’s Environmental Assessment (PEA) with the CPUC to:

- Replace the existing original steam generators at Diablo Canyon Power Plant (DCPP) Units 1 and 2 (“Proposed Project”);
- Establish ratemaking for recovery of the costs of replacing these generators; and
- Allow PG&E to begin the process of securing procurement contracts for the Proposed Project, which require a long lead-time.

The purpose of this Proposed Project is to replace the original steam generators (OSGs) at DCPP Units 1 and 2 thereby allowing DCPP to continue generating power to the end of its current Nuclear Regulatory Commission (NRC) license. PG&E states that the OSGs need to be replaced because they are degrading from stress and corrosion cracking, and other maintenance difficulties. The Proposed Project would consist of four components, or phases, which include (1) replacement steam generator (RSG) transport from the offloading location; (2) RSG staging and preparation at a temporary staging area (TSA); (3) original steam generator removal, transport, and storage at an onsite facility; and (4) replacement steam generator installation. The Proposed Project is described in detail in Section B of this Draft EIR.

The purpose of the EIR is to evaluate the environmental impacts that would be expected to result from the replacement of the OSGs at DCPP, and, where feasible, to recommend mitigation measures that, if adopted, would avoid or minimize the significant environmental impacts identified. In accordance with CEQA requirements, this EIR identifies alternatives to the Proposed Project (including the No Project Alternative), and evaluates the environmental impacts associated with these alternatives. Based on this environmental impact analysis, this EIR identifies which alternative is considered environmentally superior, as required by CEQA.

While the ratemaking proposal is also a component of the CPUC general proceeding, the scope of this EIR is defined by CEQA, which focuses on changes to any physical conditions affected by the Proposed Project. The economic and social effects of the ratemaking proposal are considered in the EIR only in the context of determining the significance of physical changes caused by the project (CEQA Guidelines §15131). See Section A.5 for additional details on CPUC jurisdiction and the general proceeding process.

The content of this EIR reflects information received from government agencies, nongovernmental organizations, and concerned members of the public during the EIR scoping period following the CPUC’s publication of the Notice of Preparation (NOP) of an EIR on October 1, 2004. During this comment period, several public involvement activities were completed: the NOP and a scoping meeting notice

were distributed; a web page and a telephone hotline were established; and three public scoping meetings were conducted (see details in Section I). Consultation with agencies also continued after the formal scoping period ended.

## A.1 Overview and History of DCP

### A.1.1 Nuclear Power Generation

Nuclear power plants use radioactive material, such as uranium, as their fuel source to produce heat that in turn generates electrical power. Other thermal power plants commonly burn oil, coal, or natural gas to generate electricity. The heat produced by nuclear fuel is due to a process called nuclear fission in which the nuclei of uranium atoms split when bombarded by smaller particles called neutrons. This process is an efficient heat generator because it perpetuates the fission process, happens very quickly, and generates a vast amount of heat with each reaction.

At DCP, nuclear fission occurs within two steel nuclear reactor vessels that are housed within concrete containment structures. The reactor vessels hold the nuclear fuel in the form of small, half-inch long uranium pellets that are stacked in 12-foot fuel rods. The fuel rods are bundled into groups called fuel assemblies. At DCP, each fuel assembly contains approximately 264 fuel rods, and there are 193 fuel assemblies per reactor vessel.

The reactor system employed at DCP is a pressurized water reactor system in which three separate loops of water (the primary, secondary, and tertiary or condenser loops) are used to transfer heat from the nuclear fuel to produce steam that is used to turn turbines thereby producing electricity.

As fission occurs in the primary loop, heat is transferred to the pressurized water that surrounds the fuel assemblies and is then carried into thousands of small tubes within the steam generator. Fresh water in the secondary loop surrounds the tubes in the steam generator and is converted to high-pressure steam with the heat from the pressurized water in the primary loop. The steam flows out of the steam generator into a turbine and causes the turbine blades to spin. The spinning turbine is directly connected to an electrical generator that creates electricity. Cooling water drawn from the Pacific Ocean cycles through the tertiary loop to condense the steam back to water after it passes through the turbine. The water of the steam cycle is then recycled back through the secondary loop of the steam generator.

It is important to note that the water within each loop never comes into contact with water from the other loops. The steam generators play a crucial role in this process as they serve as a barrier between the radioactive reactor coolant system water in the primary loop and the non-radioactive steam system in the tertiary loop. See Figure A-1 for a graphic depiction of this process.

With regard to the Proposed Project, the small tubes that are an integral part of the secondary loop are degrading within the steam generators of Units 1 and 2. The Proposed Project would replace the Unit 1 and 2 steam generators in their entirety. See Section B for further details on the Proposed Project.

Figure A-1. Typical Nuclear Power Plant Steam Supply System  
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## A.1.2 Facility Description and History

The DCPD facility is located on the Pacific Ocean in an unincorporated section of southern San Luis Obispo County. See Figures B-1 and B-2 (in Section B) for detailed maps of the Proposed Project location. In 1966, PG&E purchased property from the Marre Ranch for a nuclear power plant and a transmission corridor (NEI and PG&E, 2004). The current 760-acre DCPD site is located between the Marre and Pecho Ranches, which are controlled by PG&E and still utilized for grazing and agriculture through leases. Approximately 170 acres of the current 760-acre DCPD facility site are owned by PG&E. The remaining 590 acres of the DCPD site adjacent to and south of Diablo Creek, as well as the coastal property extending to Port San Luis, were purchased by Eureka Energy Company (Eureka), a wholly owned subsidiary of PG&E, in 1995 and leased back to PG&E. All coastal properties north of Diablo Creek extending to the southern boundary of Montaña de Oro State Park have been owned and used by PG&E since 1988. See Section B for additional details about the project location and surrounding area.

PG&E applied for two separate Certificates of Public Convenience and Necessity (CPCNs) from the CPUC for construction of DCPD Units 1 and 2, and received interim CPCNs for Units 1 and 2 in 1967 and 1969, respectively. In addition, the U.S. Atomic Energy Commission (the precursor to the Nuclear Regulatory Commission) conducted an environmental review under the National Environmental Policy Act (NEPA) for DCPD in 1973. Construction began in 1968 on Unit 1 and in 1970 on Unit 2; however, the units were not completed until the 1980s due to various regulatory, design, and construction issues. Units 1 and 2 began commercial operation in 1985 and 1986, respectively, and their Nuclear Regulatory Commission (NRC) licenses expire in 2021 and 2025.

DCPD is owned by PG&E and operated as a baseload facility; the facility operates twenty-four hours a day, seven days a week to provide approximately 2,220 megawatts (MW) of electrical power to northern and central California consumers. Units 1 and 2 each include a pressurized water reactor, steam generators, feed-water systems, and cooling water systems. In addition to the infrastructure specific to each unit, the units share a common fuel handling building, spent fuel storage pool, an auxiliary building housing emergency safety systems and other support systems, turbine generators, high-voltage step-up transformers, and switching equipment.

The workforce at DCPD fluctuates depending on the existence of any special projects such as fuel outages, maintenance work, or replacement needs. Under regular operating conditions, DCPD employs approximately 1,400 workers; however, an additional 1,100 workers can be expected during a fuel outage and 900 additional workers would be needed for the Proposed Project.

Approximately 80 percent of DCPD's fresh water supply comes from an onsite ocean water desalination plant built in 1985. The remaining 20 percent of water needed for operational and domestic uses comes from surface and well water originating in Diablo Creek and Diablo Canyon. Other onsite services available at DCPD during any given 24-hour period include a fire station employing a minimum of five to six industrial fire fighters, a group of emergency medical technicians, and a security force. Additional medical staff is present during normal weekday business hours.

## A.1.3 Proposed Independent Spent Fuel Storage Installation Project

In January 2004, the Independent Spent Fuel Storage Installation (ISFSI) Final EIR (SCH# 2002031155) was certified by the County of San Luis Obispo (County). On April 20, 2004, the County approved the ISFSI project through issuance of a Coastal Development Permit. The objectives of the Diablo Canyon

ISFSI project include the design and construction of a safe, secure onsite spent fuel storage facility that would allow DCPD to continue operations through the end of its NRC licenses, and facilitate the eventual transfer of spent fuel to a permanent federal repository offsite. The need for the ISFSI project resulted because the original spent fuel storage pool at DCPD was designed with the intent that a permanent federal storage facility would already be operating. Construction of the ISFSI project and the activities of the current Proposed Project would not interfere with or overlap one another. PG&E plans to have the Diablo Canyon ISFSI in full operational status with initial placement of fuel in storage casks in 2006, while construction activities for the Proposed Project would not be expected to start until after this time.

Spent fuel is a high-level radioactive waste that must be managed according to NRC regulations. In addition to the CEQA review performed by the County, the ISFSI project also required issuance of a site-specific license by the NRC according to the Code of Federal Regulations, Title 10, Part 72 (10 CFR 72), General License Considerations for Spent Fuel Storage in an Independent Spent Fuel Storage Installation at a Reactor Site. The NRC completed its own environmental review as required under NEPA and issued an Environmental Assessment/Finding of No Significant Impact (EA/FONSI) for the ISFSI project in October 2003.

## A.2 Purpose and Need

### A.2.1 Project Objectives

CEQA Guidelines [§15126.6(a)] require that, to be evaluated in an EIR, alternatives to a proposed project must meet most of the project objectives. PG&E's project objectives for the Proposed Project are as follows (PG&E, 2004a):

1. **Perform steam generator replacement on schedule to minimize the risk of forced outage or plant shutdown.** Replacement of DCPD's aging steam generators may reduce the risk of leakage or a permanent forced outage, or frequent mid-cycle inspections and the associated temporary plant shutdown. In addition, this objective serves to minimize the overall reduction in electrical generation at DCPD from continuing operation in the face of tube degradation.
2. **Reduce costs associated with tube degradation.** The second objective of the Proposed Project is to operate DCPD in a cost-efficient manner by reducing costs associated with tube degradation, which PG&E expects to increase over the next few years. Costs associated with tube degradation include increased maintenance costs, increased tube plugging, use of expensive sleeving, and a loss of electrical generation.
3. **Ensure continued supply of low-cost power.** Each DCPD unit provides approximately 1,100 MW of power to the California power supply. Another objective of the Proposed Project is to ensure that this supply of power remains available to California users until the end of the two current NRC licenses for Unit 1 and Unit 2.
4. **Perform steam generator replacement on a least-cost schedule.** PG&E states that the current progression of tube degradation indicates that the likelihood of a forced outage to replace the steam generators is substantially increasing, which in turn will increase the operating costs of DCPD. Replacing the steam generators according to the proposed schedule is intended to ensure that such replacement is performed as inexpensively as possible.

## A.2.2 Project Purpose and Need

The purpose of the Proposed Project is to replace the existing OSGs in DCPD Units 1 and 2, allowing them to remain in service until the end of the current NRC licenses — 2021 for Unit 1 and 2025 for Unit 2. There are four steam generators in each unit at DCPD, for a total of eight steam generators at the site. All eight OSGs would be replaced as part of the Proposed Project.

The OSGs have been in service since the mid-1980s, and are currently nearing the end of their useful lives due to tube degradation. The steam generator tubes are vital to the operation of the reactor units as they facilitate the conversion of thermal energy into electrical energy, and provide a containment barrier between the radioactive primary loop and the non-radioactive secondary loop of the pressurized water reactor system. See Section A.1.1 for more details on the pressurized water reactors used at DCPD.

The OSGs at DCPD were designed in the 1960s and are a Westinghouse Model 51 design with alloy 600MA, an iron-nickel alloy tubing material. Each OSG has 3,388 alloy 600MA vertically aligned tubes in a U-shape (or U-tubes) that are about 70 feet long with a 0.875-inch outside diameter and a 0.05-inch wall. The tubes allow for 51,000 square feet of heat transfer area in each steam generator. Additional information about steam generator parameters and components can be seen in Section B.2.4 and Figure B-4 (in Section B).

The OSGs at DCPD are expected to reach the end of their operating life within the next several years because of current and future age-related tube degradation such as cracking and corrosion. Industry experience has shown that the type of steam generator currently in DCPD Units 1 and 2 has been plagued with many forms of tube degradation. Steam generator tubes are subject to degradation via a number of mechanisms including: denting and wear on the tube wall from adjacent support structures; fatigue cracking caused by flow-induced vibration of the tube; and susceptibility to stress corrosion cracks from water chemistry and the high-pressure, thermal environment. Figure A-2 illustrates various tube degradation mechanisms. Fifty-seven other nuclear power operating units in the United States originally contained steam generators with alloy 600MA tubing; however, it is expected that a majority of these units will have replaced their steam generators by 2009. A majority of these power plants are of similar age.

PG&E inspects the steam generators at DCPD, including all of the internal tubes, during each refueling outage approximately every 18 to 21 months. The most common form of tube degradation found at DCPD is stress corrosion cracking. There are several types of stress corrosion cracking observed in the DCPD units including axial and circumferential primary water stress corrosion cracking, and outside diameter stress corrosion cracking. See Figure A-2 for a detailed illustration of these cracking methods.

The current NRC tube repair limit is two volts for outside diameter stress corrosion cracking. When a crack reaches a two-volt size as measured by a bobbin eddy current probe, the tube must either be taken out of service through plugging or temporarily repaired using a sleeve. The bobbin probe works by sending an electrical current into the tubing material. When the current encounters cracking or other tube damage, it is disrupted and measured in voltage. Various probes are used to measure tube degradation; each has limitations and is able to detect different types of degradation.

Plugging is most often used to manage tube degradation and resulting cracking. It involves inserting a plug into each end of the tube and flattening it using a roller. Plugging decreases the reactor coolant system flow thereby reducing the heat transfer capability causing a reduction in the amount of electricity produced by a unit. Significant plugging can also result in a violation of NRC license requirements,

Figure A-2. Steam Generator Tube Degradation Mechanisms  
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necessitating shutdown of the unit. Another method for managing tube degradation is sleeving, which is a temporary repair in which a smaller diameter tube is placed within the degraded tube to cover the cracked area. Due to repair complexities, only one sleeve can be used in a degraded tube; therefore, multiple cracks would require the tube to be plugged and removed from service.

The NRC requires PG&E to maintain the steam generators at DCPD so that the tubes have an extremely low probability of leakage and a substantial margin to failure. The current NRC licenses for Units 1 and 2 allow a plugging limit of 15 percent, allowing a maximum of 15 percent of plugged tubes in any one steam generator or 15 percent in all of the steam generators. Table A-1 shows the plugging percentage of each individual steam generators in Unit 1 and Unit 2 (PG&E, 2004c). However, a complex reanalysis and a NRC license amendment would allow DCPD to revise the plugging limit to a maximum of 25 percent plugged in the worst steam generator in the unit, with the remaining three steam generators in that unit limited to 20 percent.

**Table A-1. Percentage of Plugged Tubes**

Line Number	Unit	Steam Generator	Percentage Plugged
1	1	1-1	4.5
2	1	1-2	7.0
3	1	1-3	1.4
4	1	1-4	2.2
5	2	2-1	3.2
6	2	2-2	6.7
7	2	2-3	3.5
8	2	2-4	9.3

Source: PG&E, 2004c. Revised Testimony, p. 2-15.

The number of tubes requiring plugging at DCPD has dramatically increased in recent outages as a result of outside diameter stress corrosion cracking. According to probabilistic analyses conducted by PG&E using the recalculated plugging limit of 25 percent, the steam generators in DCPD Units 1 and 2 will require replacement before Fuel Cycle 18 (2014) and Fuel Cycle 17 (2013), respectively. Currently, both units are operating in Fuel Cycle 12. PG&E states that the statistical probability is zero that Units 1 and 2 will continue to operate within all applicable NRC limits until the end of each unit's operating license, which is 2021 for Unit 1 and 2025 for Unit 2. If the

OSGs are not replaced, operation of DCPD Units 1 and 2 may not be possible beyond 2014 and 2013, respectively. The Proposed Project is necessary to allow DCPD Units 1 and 2 to continue to supply electrical power. Accordingly, the Proposed Project to replace the OSGs is necessary to allow DCPD Units 1 and 2 to continue to supply electric power, and would enable DCPD to operate until the expiration date of the NRC licenses.

### A.3 Coordination of Industry Resources

Due to the intensive manpower and skilled labor required for steam generator replacement projects, coordination within the nuclear power industry is critical. There are a limited number of radiation protection technicians, welders, skilled craft workers, and other personnel with the necessary training to perform steam generator replacement projects. Simultaneous projects in close geographical proximity can cause shortages of skilled labor needed to replace the steam generators. This is a concern because Southern California Edison (SCE) also has proposed a similar project at the San Onofre Nuclear Generating Station (SONGS) for the 2009 and 2010 timeframe.

Coordination of industry resources between SONGS and DCPD is necessary to ensure full support of each company's steam generator replacement project and provide optimal resources. The peak period for Proposed Project activity would be during the refueling outages when the steam generators would also be replaced. Possible areas of coordination include training and qualifications programs that would

be acceptable at both facilities, scheduling outages to maximize the period of time between outages, and coordination of steam generator installation contractors.

Manufacture and delivery of the replacement steam generators is planned between 2005 and 2008 (see Table B-1). This phase of the Proposed Project would consist of design, engineering, construction, and shipment to a California port. This is expected to take four years and would occur at existing PG&E facilities (design, engineering), at overseas manufacturing facilities (construction of RSGs), and in international waters (shipment). The outages during which the steam generator replacement would occur may last up to 80 days and are scheduled to commence in January 2009 and February 2008 for Units 1 and 2, respectively. This would allow for an adequate time span between the DCPD outages and those scheduled to replace the steam generators at SONGS Units 2 and 3, which are proposed to begin as early as spring 2009. Although the OSGs would be replaced within the scheduled outages, other components of the Proposed Project may require additional time beyond April 2009.

## **A.4 Nuclear Regulatory Commission**

The U.S. Nuclear Regulatory Commission is an independent agency established by the Energy Reorganization Act of 1974 to regulate the civilian use of nuclear materials. Today, the NRC's regulatory activities are focused on reactor safety oversight and reactor license renewal of existing plants, materials safety oversight and materials licensing for a variety of purposes, and waste management of both high-level waste and low-level waste. The NRC's primary mission is to protect the public health and safety, and the environment from the effects of radiation associated with nuclear reactors, materials and waste facilities. The NRC also regulates these materials and facilities to promote the common defense and security.

### **A.4.1 NRC Jurisdiction**

The NRC is responsible for oversight and licensing of all commercial power, research, and test reactors, as well as the use of nuclear materials in the United States. The NRC has pre-emptive jurisdiction over State and local regulations regarding the use, storage and transport of nuclear materials and protection of public safety (NRC, 2004; see Appendix 3 for a list of the applicable NRC regulations for these processes). The NRC administers the site-specific license for DCPD Units 1 and 2, according to the requirements of 10 CFR 50, Domestic Licensing of Production and Utilization Facilities. These regulations are put forth by the NRC pursuant to the Atomic Energy Act of 1954, as amended (68 Stat. 919), and Title II of the Energy Reorganization Act of 1974 (88 Stat. 1242). The NRC allows DCPD Units 1 and 2 to operate within the limitations of the operating license and NRC requirements for the life of each unit's license, a term not to exceed 40 years (10 CFR 50.51). NRC regulation, 10 CFR 50.59(c)(1) (Changes, Tests and Experiments), is a design review that forms the basis for assessing the regulatory impact of work associated with a plant modification, such as the proposed steam generator replacement project.<sup>1</sup>

As described above, the NRC has sole jurisdiction over safety issues associated with the permitting, construction and operation of the DCPD, including the replacement of steam generators. Although the CPUC has no jurisdiction in regulating the safety issues associated with the Proposed Project, an analysis of system and transportation safety issues was conducted to provide full disclosure of potential environmental

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<sup>1</sup> PG&E has stated that "the steam generator replacement outages will not create any non-normal refueling situations and will not require any updates or changes to the NRC license" (PG&E, 2004e), and "it will not be necessary to file for a license amendment with the NRC to install the replacement steam generators" (PG&E, 2004d).

impacts associated with the Proposed Project. However, the CPUC does not have the authority to implement any suggested mitigation measures resulting from the safety analysis conducted in Section D.12. It is within the NRC's discretion to decide whether to impose any such suggested measures.

#### A.4.2 Construction of Onsite Storage

The NRC is responsible for regulating the design, construction, use, and maintenance of onsite storage facilities (10 CFR Part 30, 10 CFR Part 40). NUREG<sup>2</sup>-0810 regulates the onsite storage of low level waste (LLW). The NRC would provide oversight of all activities associated with the onsite storage of LLW, such as the OSGs. In order to fully disclose all potential environmental impacts associated with the Proposed Project, analysis of the environmental impacts associated with construction of the OSG Storage Facility and subsequent onsite storage of the OSGs is included in this EIR. However, the CPUC has no authority to regulate or condition the Proposed Project regarding nuclear materials handling and storage issues, including design. Nevertheless, the CPUC has identified mitigation measures to ensure public safety and/or safe practices during the transport and replacement activity process (such as with regard to worker safety in the event of an earthquake, for example). As described in A.4.1, it is within the NRC's discretion to decide whether to impose any of the suggested measures.

#### A.4.3 Waste Transport Offsite

The transportation of radioactive materials is jointly regulated at the federal level by the NRC and the U.S. Department of Transportation (DOT). The NRC regulates users of radioactive material, and the design, construction, use, and maintenance of shipping containers used for large quantities (as defined in 10 CFR 71.4) of radioactive and fissile materials. The DOT regulates the shippers and carriers of radioactive material and the conditions of transport. The NRC regulations governing the transportation of radioactive materials are located in 10 CFR 71 (Packaging and Transportation of Radioactive Material). Some key sections of 10 CFR 71 include: general, lifting and tie-down, and external radiation package standards (Sections 71.43, 71.45, and 71.47 respectively); package design tests for normal conditions and hypothetical accident conditions (Sections 71.71 and 71.73); and operating controls and procedures (Subpart G, Sections 71.81–71.100). However some low-level radioactive materials are exempt from a majority of 10 CFR 71 if they comply with the conditions set forth in 10 CFR 71.14 (Exemption of Low Level Materials).

The Proposed Project would store the OSGs onsite, therefore the above NRC and DOT regulations for packaging and transport of low-level radioactive waste materials offsite would not apply. See Section B.3.3.3 for those regulations that would apply to onsite storage of the OSGs. However, as an alternative, this Draft EIR evaluates the transport of the steam generators offsite to a licensed LLW disposal facility. Three commercial land disposal facilities are available for LLW and they are located in South Carolina, Washington, and Utah. Although the CPUC has no jurisdiction in regulating the management, storage or disposal of the steam generators, an analysis was conducted to provide full disclosure of potential environmental impacts associated with the Proposed Project.

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<sup>2</sup> NUREGs are reports or brochures published by the NRC on regulatory decisions, results of research or incident investigations, and other technical and administrative information.

#### A.4.4 DCPD Security

The NRC administers the site-specific license for DCPD Units 1 and 2, according to the requirements of 10 CFR 50, Domestic Licensing of Production and Utilization Facilities. These regulations are established by the NRC pursuant to the Atomic Energy Act of 1954, as amended (68 Stat. 919), and Title II of the Energy Reorganization Act of 1974 (88 Stat. 1242). These give NRC the responsibility for ensuring the safety and security of nuclear plants and material. NRC responsibilities under these acts include regulating licensees' security programs and contingency plans for dealing with threats, thefts, and sabotage. Key features of the physical protection programs include: (1) defense in depth using graded physical protection areas (Exclusion Area, Protected Area, Vital Area, and Material Access Area barriers and controls); (2) intrusion detection — assessment of detection alarms to distinguish between false or nuisance alarms and actual intrusions and to initiate response; (3) response to intrusions; and 4) offsite assistance, as necessary, from local, State, and federal agencies.

Following the attacks of September 11, 2001, the NRC immediately advised nuclear facilities to go to the highest level of security. Since then, a series of directives has been issued to further strengthen security at NRC-licensed facilities. Details of these specific actions are classified as sensitive and not available publicly, but for facilities such as power reactors, they generally include: (1) increased patrols; (2) augmented security forces and capabilities; (3) additional security posts; (4) installation of additional physical barriers; (5) vehicle checks at greater stand-off distances; (6) enhanced coordination with law enforcement and military authorities; (7) more restrictive site access controls for all personnel; and (8) expanded, expedited, and more thorough employee background checks. The NRC preempts the CPUC with regards to security issues at DCPD. This section is provided for information purposes only. See Section D.12.1, Facility Security and Terrorism Issues, for more detail on this issue.

#### A.4.5 NRC License Renewal

In order to operate beyond the license expiration date, 2021 for Unit 1 and 2025 for Unit 2, PG&E would need to apply for and obtain a license renewal. The NRC license renewal process proceeds along two review tracks: a safety review and an environmental review. The safety review consists of a technical report evaluating the aging effects on all systems and structures. The environmental review consists of a two-tiered process of reviewing the potential environmental impacts associated with license renewal: (1) compliance with the Generic EIS (GEIS), which is a programmatic approach to assess 92 potential environmental issues; (2) a detailed environmental review of 24 facility specific environmental issues. In addition to the safety and environmental reviews, public participation plays an integral role in the renewal process. Public involvement could include public meetings, dissemination of information, and adjudicatory hearings. Operation of the DCPD beyond the license expiration date has not been proposed by PG&E, and is not part of the Proposed Project being evaluated in this EIR. See Section G.2 for more information on this process.

### A.5 CPUC Jurisdiction

Pursuant to Article XII of the Constitution of the State of California, the CPUC oversees the regulation of investor-owned public utilities, including PG&E. The CPUC is the Lead Agency for CEQA compliance in evaluation of PG&E's Proposed Project. The CPUC has directed the preparation of this EIR, which it will ultimately use in conjunction with other non-environmental information developed during the formal proceeding process, to act on PG&E's application for recovery of costs for implementation of the Proposed Project. Under CEQA requirements, the CPUC will determine the adequacy of the

Final EIR and, if adequate, will certify the document as complying with CEQA. If it approves a project with significant and unmitigable impacts, it must state the reason in a “Statement of Overriding Considerations,” which would be included in the CPUC’s decision on the application.

The CPUC has assigned an Administrative Law Judge (ALJ) to oversee the hearings on the Proposed Project. Commissioner Geoffrey F. Brown is the Assigned Commissioner for the ratemaking application for the Proposed Project. The ALJ, in accordance with his Scoping Memo, will hold Evidentiary Hearings on the application and will issue a Proposed Decision on the Proposed Project. The ALJ’s Decision, and the Evidentiary Hearings, will cover issues of project need, project cost, and other considerations.

A typical EIR includes evaluation of environmental impacts of a Proposed Project on areas such as: Air Quality; Biological Resources; Cultural Resources; Geology, Soils, and Paleontology; Hydrology and Water Quality; Land Use and Recreation; Noise and Vibration; Public Health and Safety; Public Services and Utilities; Socioeconomics; Transportation and Traffic; and Visual Resources. However, due to the sensitivity of the Proposed Project, this EIR will discuss additional aspects including some issues that fall outside CPUC jurisdiction, but whose evaluation is important to the full disclosure of all potential impacts of the Proposed Project. Some of these issues include human health and safety risks due to radiological exposure, security concerns, and terrorism.

Regulation of the DCP by the CPUC is limited by federal laws and regulations governing atomic and nuclear energy. As described in Section A.4, DCP is solely required to comply with NRC regulations on issues regarding radioactive hazards, safety issues, and nuclear materials transport and storage. The State of California, including the CPUC and local jurisdictions such as San Luis Obispo County, do not have the authority to regulate these aspects of nuclear power plant operations. Given this mandate, the NRC has the right to impose or deny any mitigation measures recommended within this EIR regarding radiological hazards, safety issues and nuclear materials transport and storage. The CPUC’s jurisdiction over the Proposed Project, including the authority to impose mitigation measures, encompasses all other issue areas described in this EIR.

In addition to CPUC and NRC jurisdiction over the Proposed Project, PG&E may be required to obtain a Coastal Development Permit from the County of San Luis Obispo under the County’s Local Coastal Program (LCP). The LCP provides a framework for local policy decisions regarding coastal resource protection. Some issues that are covered under the San Luis Obispo LCP include sustainable development, water quality protection, preservation of agriculture and scenic rural landscapes, and protection of sensitive species and habitats.

## A.6 Agency Use of this Document

Several other agencies will rely on information in this EIR to inform them in their decisions over issuance of specific permits related to Proposed Project activities. In addition to the CPUC, State agencies such as the Regional Water Quality Control Board would be responsible for issuing permits for the Proposed Project. On the federal level, agencies with potential reviewing and/or permitting authority include the U.S. Army Corps of Engineers and the Occupational Safety and Health Administration. See Table A-2 for a comprehensive list of permits that may be required for the Proposed Project.

The CPUC’s authority does not preempt special districts, other State agencies, or the federal government. Because San Luis Obispo County has been delegated State Coastal Act authority, the Local Coastal Plan (LCP) at the county level may require a Coastal Development Permit (CDP) for the Proposed Project. The LCP governs whether proposed projects within the coastal zone would be consistent with the State’s coastal management plan and are, therefore, allowable. If the Proposed Project is deemed consistent

## DCPP Steam Generator Replacement Project

### A. INTRODUCTION

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with the LCP, a CDP may be issued for the Project. In addition, PG&E would be required to obtain all ministerial building and encroachment permits from local jurisdictions.

PG&E has filed a Conditional Use Permit Application with San Luis Obispo County for the Original Steam Generator Storage Facility and a Coastal Development Permit for the Temporary Staging Areas and Containment Access Facilities. Both Applications were submitted to San Luis Obispo County on February 2, 2005.

The actual repair and replacement activities associated with the Proposed Project are exempt from the requirements of Title 23 of the San Luis Obispo County Code [Coastal Zone Land Use Ordinance (CZLUO)] as stated in Section 23.03.040(d)(1). However, the Proposed Project also requires the construction of temporary structures (the TSA facilities) within the coastal zone for use during the RSG staging and preparation phase, and of a permanent storage facility for the OSGs (the OSG Storage Facility) outside the coastal zone. The temporary TSA structures within the coastal zone require approval by San Luis Obispo County under the CZLUO, and PG&E has filed a Coastal Development Permit (CDP) application pursuant to Section 23.02.034 of the CZLUO. It appears that the OSG Storage Facility is outside the coastal zone, and therefore is governed by Title 22 of the County Code [Land Use Ordinances (LUO)]. While it is not entirely clear from the LUO whether a Conditional Use Permit (CUP) or a Site Plan Review is required for the OSG Storage Facility, PG&E has filed a CUP with San Luis Obispo County pursuant to Section 22.62.060 of the County Code. If it is later determined that a CUP is not required for the OSG Storage Facility, a Site Plan Review would be required under Section 22.62.040.

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**Table A-2. Permits that May Be Required for the DCPP Steam Generator Replacement Project**

Permits	Agency	Jurisdiction/Purpose
<b>Federal Agencies</b>		
Nationwide or Individual Permit (Section 404 of the Clean Water Act)	U.S. Army Corps of Engineers	Possible interaction with Diablo Creek
<b>State Agencies</b>		
General Permit for Discharges of Storm Water Associated with Construction Activity/Storm Water Pollution Prevention Plan (SWPPP)	Central Coast Regional Water Quality Control Board	Construction of Temporary Staging Area (TSA) and OSG Storage Facility
Section 1601 Streambed Alteration Agreement	California Department of Fish and Game	Possible interaction with Diablo Creek
State Water Quality Certification (Section 401 of the Clean Water Act)	State Water Resources Control Board	A Water Quality Certification would be required if a Section 404 permit is needed
Permit to Operate (PTO) or Statewide Portable Equipment Registration Program	San Luis Obispo County Air Pollution Control District	For operation of hydro-lazing and integrated leak rate test equipment engines
Authority to Construct (ATC)	San Luis Obispo County Air Pollution Control District	All applicable aspects of the Proposed Project

Table A-2. Permits that May Be Required for the DCPP Steam Generator Replacement Project

Permits	Agency	Jurisdiction/Purpose
<b>Local Agencies</b>		
Roadway Closure Permit	San Luis Obispo County, Department of Public Works and Transportation	Possible closure of Avila Beach Drive during the transportation of the steam generators
Coastal Development Permit	County of San Luis Obispo, Planning and Building Department	Construction of TSA facilities in the coastal zone on DCPP property
Conditional Use Permit	County of San Luis Obispo, Planning and Building Department	Construction of the OSG Storage Facility
Building and grading permits	County of San Luis Obispo	Construction of new facilities where jurisdiction is not preempted by federal authority
License to Load and Stage at the Port	Port San Luis Harbor District	Temporary use of District's facilities

## A.7 Reader's Guide to This EIR

### A.7.1 Incorporation by Reference

PG&E's Proponent's Environmental Assessment (submitted as part of its Application No. A.04-01-009 for the Diablo Canyon Steam Generator Replacement Project) contains certain information that is incorporated by reference in some sections of this EIR. This document is available for public review during normal business hours at the CPUC's Central Files (505 Van Ness Avenue, San Francisco), and also via the Internet at <http://www.cpuc.ca.gov/environment/info/aspn/diablocanyon/diablocanyon.htm>.

### A.7.2 EIR Organization

This EIR is organized as follows:

**Executive Summary.** A summary description of the Proposed Project, the approach to environmental analysis, the alternatives, the environmental impacts of the Proposed Project and Alternatives, and the Environmentally Superior Alternative.

**Impact Summary Tables.** A tabulation of the impacts and mitigation measures for the Proposed Project and alternatives.

**Section A (Introduction).** A discussion of the background, purpose and need for the Proposed Project, a brief description of the proposed Diablo Canyon Steam Generator Replacement Project, an overview of nuclear power generation, an outline of NRC and CPUC jurisdiction, and a description of the public agency use of the EIR.

**Section B (Project Description).** Detailed description of the proposed Diablo Canyon Steam Generator Replacement Project.

**Section C (Alternatives Process and Description).** Description of the alternatives evaluation process, description of alternatives considered but eliminated from further analysis and the rationale therefor, and description of the alternatives analyzed in Section D.

**Section D (Environmental Analysis).** A comprehensive analysis and assessment of impacts (including cumulative impacts) and mitigation measures for the Proposed Project and several alternatives, including the No Project Alternative. This section is divided into main sections for each environmental issue area (e.g., Air Quality, Biological Resources) that contain the environmental settings, impacts of the Proposed Project and each alternative. At the end of each issue area analysis, a Mitigation Monitoring table is provided.

**Section E (Comparison of Alternatives).** Identification of the CEQA Environmentally Superior Alternative and a discussion of the relative advantages and disadvantages of the Proposed Project and alternatives that were evaluated.

**Section F (Additional CEQA Considerations).** A discussion of growth-inducing impacts, irreversible environmental changes, and cumulative impacts.

**Section G (NRC License Renewal).** An overview of the status of PG&E's consideration of NRC license renewal, a description of the NRC licensing process, an outline of the NRC Generic EIS required for license renewal, and a listing of the status of U.S. nuclear power plants that are currently in the process of license renewal.

**Section H (Mitigation Monitoring and Reporting).** A discussion of the CPUC's mitigation monitoring program requirements for the Proposed Project as approved by the CPUC

**Section I (Public Participation).** A brief description of the public participation program for this EIR and a summary of the Scoping Report.

**Section J (Report Preparation).** A listing of EIR preparers, information contacts and a glossary with definitions and acronyms.

**Appendices:**

1. Notice of Preparation
2. Biological Resources
3. Summary of Pertinent Federal Regulations

## A.8 References

MRS (Marine Research Specialists). 2004. Diablo Canyon Power Plant, Independent Spent Fuel Storage Installation Environmental Impact Report (ISFSI EIR). January.

Nuclear Energy Institute and PG&E. 2004. Economic Benefits of Diablo Canyon Power Plant. [http://www.nei.org/documents/Economic\\_Benefits\\_Diablo\\_Canyon.pdf](http://www.nei.org/documents/Economic_Benefits_Diablo_Canyon.pdf). January.

NRC (Nuclear Regulatory Commission). 2004. Who Regulates Radioactive Materials and Radioactive Exposure? Available: <http://www.nrc.gov/what-we-do/radiation/reg-matls.html>. Accessed March 1, 2005.

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- PG&E (Pacific Gas and Electric Company). 2004a. Proponent's Environmental Assessment (PEA) for the Diablo Canyon Steam Generator Replacement Project. Submitted to the California Public Utilities Commission. January 9.
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- \_\_\_\_\_. 2004c. Pacific Gas and Electric Revised Testimony Supporting PG&E's Application to Replace the Steam Generators in Units 1 and 2 of the Diablo Canyon Power Plant. March 26.
- \_\_\_\_\_. 2004d. Response of Pacific Gas and Electric to CPUC Deficiency Notice. May 10.
- \_\_\_\_\_. 2004e. Response of Pacific Gas and Electric to CPUC Data Request No. 2. October 21.