

A. Introduction

This ~~Draft~~ Environmental Impact Report (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 San Onofre Nuclear Generating Station (SONGS) Steam Generator Replacement Project proposed by Southern California Edison Company (SCE, or “the Applicant”). The EIR addresses the potential environmental impacts of the Project and identifies an environmentally superior alternative, but does not make a recommendation regarding 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 February 27, 2004, SCE filed an application (A.04-02-026) (SCE, 2004a) and a Proponent’s Environmental Assessment (PEA) (SCE, 2004b) with the CPUC to:

- Replace the existing original steam generators (OSGs) at SONGS Units 2 and 3 (“Proposed Project”);
- Establish ratemaking for recovery of the costs of replacing these generators; and
- Address other related steam generator replacement issues.

The purpose of the Proposed Project is to replace the OSGs at SONGS Units 2 and 3 thereby allowing SONGS to continue generating power to the end of its current U.S. Nuclear Regulatory Commission (NRC) license. SCE states that the OSGs need to be replaced because of degradation from stress and corrosion cracking, and other maintenance difficulties. The Proposed Project is described in detail in Section B (Project Description) of this EIR. The Proposed Project would include: replacement steam generator (RSG) transport; RSG staging and preparation; OSG removal, staging, and disposal; and RSG installation and return to service.

The purpose of this EIR is to evaluate the potential environmental impacts expected to result from the Proposed Project, 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 environmental impacts associated with each of the alternatives. Based on this analysis, this EIR identifies which of the alternatives 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 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 whether or not they lead to any physical changes that would result in significant impacts to the environment (CEQA Guidelines §15131). See Section A.5 for additional details on CPUC jurisdiction and the general proceeding process.

The CPUC published the Notice of Preparation (NOP) of an EIR for the Proposed Project on October 1, 2004, which commenced the 30-day public scoping process. The content of this EIR reflects information and comments received from government agencies, nongovernmental organizations, and concerned members of the public during the 30-day scoping period. During this comment period, the CPUC conducted various public outreach activities to inform the public about the Proposed Project, including:

- Distribution of the NOP and a scoping meeting notice;
- Establishment of a project web site and telephone hotline; and
- Conducting three public scoping meetings (see details in Section I).

Consultation with agencies continued after the formal scoping period ended.

A.1 Overview and History of SONGS

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 is self-perpetuating, happens very quickly, and generates a vast amount of heat with each reaction.

At SONGS, nuclear fission occurs within two steel nuclear reactor vessels that are housed within thick concrete containment structures. There are two main systems used to produce power. The primary system creates heat while the secondary system converts heat to steam, which flows through turbines that drive an electric generator, thereby converting thermal energy to electrical energy. In SONGS 2 & 3, the primary system contains a reactor vessel, four reactor coolant pumps, two steam generators, a pressurizer, and the interconnecting piping (SCE, 2004e).

The reactor system employed at SONGS 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. In this closed-loop system, 400,000 gallons per minute of subcooled water is pumped through the reactor (SCE, 2004e). 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 2 and 3. The Proposed Project would replace the Unit 2 and 3 steam generators in their entirety. See Section B (Project Description) 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 SONGS facility is located on the Pacific Ocean in an unincorporated section of San Diego County near San Clemente, California. See Figures B-1 and B-2 (in Section B) for detailed maps showing the Proposed Project location. The current 84-acre SONGS site is located entirely within the boundaries of the U.S. Marine Corps Base Camp Pendleton (MCBCP), under an easement granted by the U.S. government. Refer to Section B (Project Description) for additional details about the project location and surrounding area. SCE is the operating agent for SONGS 2 & 3. Ownership of SONGS 2 & 3 is divided between SCE (75.05 percent), San Diego Gas and Electric (SDG&E, 20 percent), City of Anaheim (3.16 percent) and City of Riverside (1.79 percent). The steam generator replacement project requires the approval of all of these co-owners (SCE, 2004d, p. 2).

The generating facility consists of three generating units. Unit 1 was retired from service in 1992 and is being decommissioned (CPUC Decision D.99-06-007). In February 2000, the California Coastal Commission granted a Coastal Development Permit (CDP E-00-001) to decommission and demolish Unit 1 and transport the Unit 1 reactor by rail through MCBCP to a barge for transport and eventual disposal at a permanent storage facility in South Carolina. Being unable to negotiate terms and conditions with the railroad companies, the California Coastal Commission granted approval (CDP E-00-001-A1) to transport the Unit 1 reactor by land via a transporter through MCBCP. This transport activity required a Real Estate License from MCBCP, which was considered a federal action under the National Environmental Policy Act (NEPA) and the subject of an Environmental Assessment in January 2003 (SCE, 2003). The ultimate disposal point for the Unit 1 reactor remains unknown, and the reactor presently remains on site at SONGS.

Unit 2 and Unit 3 began commercial operation in 1983 and 1984, respectively. SONGS 2 & 3 are pressurized water reactor (PWR) nuclear power units that are rated to supply 1,070 and 1,080 megawatts (MW), respectively, to the SCE and SDG&E service areas. The nuclear power units provide a combined 2,150 MW of base-load power with an annual capacity factor of approximately 88 percent, which is enough to power approximately 2.1 million homes. Currently, SONGS 2 & 3 operate under licenses issued by the Nuclear Regulatory Commission that are scheduled to expire in 2022. The existing NRC operating licenses were approved after a federal environmental review that analyzed the potential environmental impacts associated with the operation of SONGS Units 2 and 3 through the end of the licensing periods. In March 1973, the NRC published the "Final Environmental Statement related to the proposed San Onofre Nuclear Generating Station, Units 2 and 3," and in April 1981, the NRC issued a Final Environmental Statement pursuant to the requirements of NEPA and 10 CFR 51.

Occasionally, the power units must be completely shut down for installation of fresh uranium fuel. During each refueling and maintenance outage (RFO), spent fuel is removed from the reactor and new fuel is installed. Spent fuel is high-level radioactive waste that must be handled according to NRC regulations. SONGS includes a spent fuel storage pool facility that was constructed with the original development of SONGS 2 & 3, and an additional temporary dry storage facility that will be located near Unit 1. The California Coastal Commission approved the Coastal Development Permit (CDP E-00-014) for the additional spent fuel storage facility in June 2001. The additional dry storage facility was needed because the original spent fuel storage capacity of the plant would have been exceeded in 2007. This is mainly because the U.S. Department of Energy has yet to provide an alternative spent fuel storage facility or repository. The recently approved onsite dry storage facility will provide enough onsite spent fuel storage capacity for SONGS 2 & 3 to operate fully for the remainder of the NRC licenses.

A.2 Purpose and Need

A.2.1 Project Objectives

The CEQA Guidelines [§15126.6(a)] require that the alternatives evaluated in the EIR must be capable of achieving most of the Proposed Project's objectives. SCE's objectives for the Proposed Project are to (SCE, 2004a, p. 3):

- **Extend useful life of steam generators.** The useful life of SONGS 2 & 3 is limited by the life of the OSGs. For SONGS 2, there is a 25 percent probability that the steam generators will not be able to operate beyond the Fuel Cycle 16 RFO, which may begin as early as 2009. For SONGS 3, this probability is equal to 15 percent. For both units, these probabilities accelerate after the Fuel Cycle 16 RFO (SCE, 2004a, p. 5).
- **Perform steam generator replacement during earliest scheduled outage.** Because of the approximate five-year lead time from SCE's commitment to a vendor for steam generator fabrication to when the replacement steam generators are ready for installation, the earliest time that the steam generator replacement project is feasible is during Fuel Cycle 16 RFO, anticipated in 2009.
- **Ensure continued supply of low-cost power.** SCE believes that replacing the steam generators is cost-effective from a ratepayer perspective. Continued operation of SONGS 2 & 3 provides ratepayer benefits by deferring the costs of replacement base-load generation facilities and transmission system upgrades that will be required when SONGS 2 & 3 shut down.

A.2.2 Project Purpose and Need

The purpose of the Proposed Project is to replace the existing OSGs in SONGS Units 2 and 3, allowing them to remain in service until the end of the current NRC licenses in 2022. There are two steam generators in each unit at SONGS, for a total of four steam generators at the site. All four OSGs would be replaced as part of the Proposed Project.

The OSGs have been in service since their completion in the in the early 1980s, and are currently nearing the end of their useful lives due to degradation of the steam generator tubes and the carbon steel tube support structures (SCE, 2004e). The most common forms of degradation at SONGS 2 & 3 include the following:

- stress corrosion cracking that occurs on both the primary (inside) and secondary (outside) sides of steam generator tubes;
- intergranular attack stress corrosion cracking that affects metal grain boundaries, in which cracks start to form in the steam generator tubes on the secondary side;
- denting that occurs when steam generator tubes are squeezed inward and deformed as a result of the corrosion of carbon steel tubing supports; and
- flow-induced vibrations that occur in regions of high cross flow, causing tube and support structure wear (SCE, 2004e).

As a result of similar degradation mechanisms, dozens of other nuclear power operating units in the United States either have replaced steam generators or have replacement programs underway (SCE, 2004e), and half of the units of a similar (Combustion Engineering) design have involved replacement by cutting the thick concrete containment structures. A majority of these power plants are of similar age.

The current NRC tube repair limit is ~~two volts for outside diameter stress corrosion cracking~~ 44 percent through-wall flaw or a crack-like flaw, which is plugged upon detection. When a ~~crack-flaw~~ reaches a ~~two volt size as measured by a bobbin eddy current probe~~ the repair limit, the tube must either be taken out of service through plugging or temporarily repaired using a sleeve. Various probes are used to measure tube degradation; each has limitations and is able to detect different types of degradation. The bobbin probe works by sending ~~an electrical current~~ a magnetic field into the tubing material. When the ~~current magnetic field~~ 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-expanding~~ 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~~ reaching the plugging limit, necessitating shutdown of the unit. Another method for managing tube degradation is sleeving, which is a ~~temporary~~ repair method 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 SCE to maintain the steam generators at SONGS so that the tubes have an extremely low probability of leakage and a substantial margin of failure. The current NRC licenses for Units 2 and 3 allow a plugging limit of 21.4 percent, or 2,000 tubes per steam generator. As of early 2004, the SONGS 2 & 3 steam generators have tube-plugging levels of 8.8 and 7.1 percent, respectively (SCE, 2004e, p. 11). Tube plugging will continue and is expected to accelerate throughout the remaining life of the OSGs.

Due to ongoing degradation, the OSGs will eventually reach a state where, under applicable NRC regulations, the steam generators must be replaced or the plant must be shut down. SCE predicts that there is a 25 percent probability that the OSGs at SONGS Unit 2 would not be allowed to operate beyond the RFO for Fuel Cycle 16 in 2009, and that there is a 100 percent probability that they would not be allowed to operate beyond Fuel Cycle 20, in approximately 2016. Similarly, SCE predicts that there is a 15 percent probability that the OSGs at SONGS Unit 3 would not be allowed to operate beyond the RFO for Fuel Cycle 16 in 2009 and a 75 percent probability that the OSGs at Unit 3 would not be allowed to operate beyond Fuel Cycle 20 (SCE, 2004c, p. 4). Replacement of the OSGs would enable operation of SONGS 2 & 3 through at least the 2022 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 Pacific Gas and Electric Company (PG&E) also has proposed a similar project at the Diablo Canyon Power Plant (DCPP) for the 2008 and 2009 timeframe.

Coordination of industry resources between SONGS and DCPP 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 scheduled outages when the steam generators would 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 RSGs is planned between 2005 and 2010 (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 SCE 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 115 days and are currently scheduled to commence in March-October 2009 and September-October 2010 for Units 2 and 3, respectively. This would allow for an adequate time span between the SONGS outages and those scheduled to replace the steam generators at DCPD Units 1 and 2, which are proposed to begin as early as February 2008. Although the OSGs would be replaced within the scheduled outages, other components of the Proposed Project may require additional time beyond September 2010.

A.4 Nuclear Regulatory Commission

The NRC is an independent agency established by the Energy Reorganization Act of 1974 to regulate the civilian use of nuclear materials. At present, 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 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 4 for a list of applicable NRC regulations). The NRC administers the site-specific license for SONGS Units 2 and 3, according to the requirements of 10 CFR 50, Domestic Licensing of Production and Utilization Facilities. These NRC regulations are 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 SONGS Units 2 and 3 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). SCE expects that the NRC license would not need to be amended for the Proposed Project because all work would be conducted within the terms of the licenses (SCE, 2004f).

As described above, the NRC has sole jurisdiction over nuclear and radiological safety issues associated with the permitting, construction and operation of SONGS, including the replacement of steam generators. Although 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 safety impacts associated with the Proposed Project. The CPUC does not have the authority to implement measures involving nuclear and radiological safety, but measures to ensure public

safety and/or safe work practices during project activities are identified. It is at the NRC's discretion to implement measures involving radiation hazards and nuclear safety for the Proposed Project.¹

A.4.2 NRC License Renewal

In order for Units 2 and 3 to operate beyond the license expiration date of 2022, SCE would need to apply for and obtain a license renewal. The NRC license renewal process proceeds along two review tracks:

- A safety review consisting of a technical report evaluating the aging effects on all systems and structures; and
- An environmental review consisting of a two-tiered process of reviewing the potential impacts associated with license renewal: (1) compliance with the Generic EIS (GEIS), which is a programmatic approach to assess 92 potential environmental issues; and (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. As described in Section G.1 (SCE's Position on NRC License Renewal) of this EIR, SCE currently has no plans to apply to the NRC for renewal of the licenses. See Section G.2 (NRC Licensing Process) for more information on the renewal process.

A.4.3 Temporary Onsite Storage of Waste

The NRC is responsible for regulating the design, construction, use, and maintenance of onsite storage facilities (10 CFR Part 30, 10 CFR Part 40). The NRC would provide oversight of all activities associated with the temporary onsite storage of low-level radioactive waste (LLRW), 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 use of the temporary enclosure facility during OSG staging 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 facility design. The CPUC has proposed mitigation measures to ensure public safety and/or safe work practices during the transport and replacement activities (such as with regard to worker safety in the event of an earthquake, for example). As described in Section A.4.1, it is within the NRC's discretion to decide whether to impose measures involving radiation hazards and nuclear safety.

A.4.4 Waste Transport Offsite

At the federal level, the NRC and the U.S. Department of Transportation (DOT) jointly regulate the transportation of radioactive materials. 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). However, some

¹ The Atomic Energy Act (AEA) permits NRC to make agreements with the governors of states to turn over regulatory authority for AEA materials to the State if certain conditions are met. States that meet the conditions and agree to regulate AEA materials are called "Agreement States." Agreement States usually regulate all sources of radiation in the State, except reactors and large quantities of special nuclear material (NRC, 2004). California is considered an Agreement State with respect to byproduct materials, source materials, and special nuclear materials in small quantities.

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 transport the OSGs to a licensed low-level radioactive waste disposal facility. Three U.S. commercial land disposal facilities are available for accepting LLRW, and they are in South Carolina, Washington, and Utah. SCE prefers immediate offsite disposal for the OSGs because it conserves use of the limited space at the site and removes uncertainty concerning future disposal costs. However, as an alternative, this EIR evaluates the onsite storage of the OSGs (see Section C). 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.

A.4.5 SONGS Security

The NRC administers the site-specific license for SONGS Units 2 and 3, according to the requirements of 10 CFR 50, Domestic Licensing of Production and Utilization Facilities 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 regulations 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 have 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 respect to security issues at SONGS. This section is provided for information purposes only. See Section D.12 (System and Transportation Safety) for more information on this issue.

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 SCE. The CPUC is the Lead Agency for CEQA compliance in evaluation of SCE'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 SCE'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 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 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 project. Some of these issues include human health and safety risks due to radiological exposure, security concerns, and terrorism.

Regulation of SONGS by the CPUC is limited by federal laws and regulations governing atomic and nuclear energy. As described in Section A.4, SONGS 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 Diego 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 implement mitigation measures, encompasses all other issue areas described in this EIR.

In addition to CPUC and NRC jurisdiction over the Proposed Project, SCE may be required to obtain a Coastal Development Permit (CDP) from the California Coastal Commission pursuant to the California Coastal Act and the federal Coastal Zone Management Act. These two statutes provide the California Coastal Commission with the authority to issue CDPs for proposed developments that would modify land or water use in the coastal zone. Some issues that are covered under the Chapter 3 of the California Coastal Act (Coastal Resources Planning and Management Policies) include sustainable development, water quality protection, preservation of agriculture and scenic rural landscapes, and protection of sensitive species and habitats.

SCE would need to file applications for CDPs, as necessary, with the California Coastal Commission, which would review these applications accordance with Coastal Act requirements. Both the application review and approval processes are wholly independent of the CPUC's approval process for the Proposed Project (including the CEQA environmental review process and this EIR). However, the California Coastal Commission could utilize the information from this EIR while processing the CDP applications if it deems the information applicable to the CDP application review process. Detailed analysis of Proposed Project consistency with the coastal zone management program would occur as part of the California Coastal Commission's own review of SCE's CDP application process, if a CDP is required for any of the Proposed Project activities.

See Table A-2 for a comprehensive list of permits required for the Proposed Project.

A.6 Agency Use of this Document

Several other agencies will rely on information in this EIR to inform them in their decision over issuance of specific permits related to project activities (refer to Table A-2). 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.

The CPUC’s authority does not preempt special districts, other State agencies, or the federal government. This document will be used by Responsible Agencies as defined by CEQA Guidelines Section 15381, including the California Department of Transportation and the California Department of Parks and Recreation. Because the California Coastal Commission has been delegated authority over the coastal zone, the Proposed Project would be subject to the provisions of the California Coastal Act. Under Chapter 3 of the California Coastal Act, a CDP may be required in order for the project to commence. In addition, SCE would be required to obtain all ministerial building and encroachment permits from local jurisdictions.

SCE would also need to request the issuance of a real estate license for transport of the RSGs across lands owned by the U.S. Department of the Navy (DoN) and occupied by the Marine Corps from U.S. Marine Corps Base Camp Pendleton for the offloading and transport of the RSGs across Camp Pendleton. Approval of the real estate license by the Commanding General of MCBCP is a federal action that would be subject to NEPA environmental review requirements, which will evaluate all potential on-base route alternatives before an approved route is determined.

Table A-1. Permits that May Be Required for the SONGS Steam Generator Replacement Project

Permits	Agency	Jurisdiction/Purpose
Federal Agencies		
<u>DoN License for Non-Federal Use of Real Property (License or Real Estate License)</u>	<u>Commanding General of U.S. Marine Corps Base Camp Pendleton</u>	For transport of RSGs across lands <u>occupied owned</u> by Marine Corps <u>and owned by Department of the Navy</u> (subject to NEPA)
Exemption for the sealed unpackaged OSG as a shipping “package”	U.S. Department of Transportation	For highway transport and disposal of OSGs
Low Level Radioactive Waste Packaging and Transportation	Nuclear Regulatory Commission	For packaging and transportation of LLRW
Nationwide or Individual Permit (Section 404 of the Clean Water Act)	U.S. Army Corps of Engineers	For transport across natural drainages by ford crossing method
Section 10 Rivers and Harbors Act	U.S. Army Corps of Engineers	For transport across natural drainages by ford crossing method
Section 7 consultation (through U.S. Army Corps of Engineers’ review process)	U.S. Fish and Wildlife Service	Consultation pursuant to the Endangered Species Act would be conducted by U.S. Army Corps of Engineers, if necessary
State Agencies		
Coastal Development Permit Amendment	California Coastal Commission	For transport of RSGs on the Beach and Road Route
Encroachment Permit, Highway Crossing Permit, <u>Wide Load Permit</u> , and Dual Lane Bonus Purple Permit	California Department of Transportation	For transport of RSGs

Table A-1. Permits that May Be Required for the SONGS Steam Generator Replacement Project

Permits	Agency	Jurisdiction/Purpose
State Agencies, cont.		
<u>Notification and consultation for low-level radioactive waste transport</u>	<u>California Highway Patrol and California Department of Transportation (Truck Services Managers)</u>	<u>For transport of OSGs (LLRW) to disposal site</u>
<u>Right of Entry Agreement</u> <u>Permit for use of Old Highway 101</u>	California Department of Parks and Recreation	For transport of RSGs <u>and use of Old Highway 101</u>
Local Agencies		
Permit to Operate or Statewide Portable Equipment Registration Program	San Diego County Air Pollution Control District	For operation of hydro-lazing <u>and integrated leak-rate test equipment engines</u>
NPDES Permit	San Diego Regional Water Quality Control Board	Revision of existing permit for project activities, including concrete cutting and steam generator draining
Stormwater Permit	San Diego Regional Water Quality Control Board	Revision of existing permit for project activities, including concrete cutting
Health Permit	San Diego County Department of Environmental Health, Hazardous Material Program	Revision of existing permit for project activities, including tensioning cable (grease), glass bead blasting, asbestos insulation/gasket removal, lead/lead paint removal

A.7 Reader’s Guide to This EIR

A.7.1 Incorporation by Reference

SCE’s PEA (submitted as part of its Application No. 04-02-026 for the San Onofre Nuclear Generating Station 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 online at <http://www.cpuc.ca.gov/environment/info/aspen/sanonofre/sanonofre.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 summary of impacts and associated mitigation measures for the Proposed Project and alternatives presented in tabular format.

Section A (Introduction). A discussion of the background, purpose and need for the project, a brief description of the Proposed 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 Project.

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

Section D (Environmental Analysis). A comprehensive analysis of impacts (including cumulative impacts) and mitigation measures for the Proposed Project and alternatives, including the No Project Alternative. Each environmental issue area section (e.g., Air Quality, Biological Resources) contains the environmental settings, impacts, and cumulative effects 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.

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 current SCE's position on 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 project as approved by the CPUC.

Section I (Public Participation). A brief description of the public participation program for this EIR, including a summary of the project 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. Cultural Resources
4. Summary of Pertinent Federal Regulations

A.8 References

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

SCE (Southern California Edison). 2003. Environmental Assessment for the Transport of the SONGS Unit 1 Reactor Pressure Vessel Package Transport System on Marine Corps Base Camp Pendleton. Prepared for SCE by URS. January 22.

_____. 2004a. Application of Southern California Edison (U 338-E) for Authorization: (1) to replace San Onofre Nuclear Generating Station Unit Nos. 2 & 3 (SONGS 2 & 3); (2) establish ratemaking for cost recovery; and (3) address other related steam generator replacement issues. February 27.

- _____. 2004b. Proponent's Environmental Assessment (PEA) for the San Onofre Nuclear Generating Station Steam Generator Replacement Project. Submitted to the California Public Utilities Commission. February 27.
- _____. 2004c. Application 04-02-026, Exhibit SCE-1, Policy (Redacted). Public Version. February.
- _____. 2004d. Application 04-02-026, Exhibit SCE-1, Policy. February.
- _____. 2004e. Application 04-02-026, Exhibit SCE-2, Condition of Steam Generators and Expectations for Continued Operation of Original Steam Generators. February.
- _____. 2004f. Response to April 15, 2004, Deficiency Notice (A.04-02-026), Question 3. May 24.