

D.1 Introduction to Environmental Analysis

D.1.1 Introduction/Background

This section provides discussion and full public disclosure of the significant environmental impacts of the Proposed Project and the Proposed Project alternatives, including the No Project Alternative. The real and potential environmental impacts associated with the Proposed Project are examined as they relate to the following 13 areas of environmental analysis:

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| D.2 Air Quality | D.9 Noise and Vibration |
| D.3 Biological Resources | D.10 Public Services and Utilities |
| D.4 Cultural Resources | D.11 Socioeconomics |
| D.5 Geology, Soils, and Paleontology | D.12 System and Transportation Safety |
| D.6 Hazardous Materials | D.13 Traffic and Circulation |
| D.7 Hydrology and Water Quality | D.14 Visual Resources |
| D.8 Land Use, Recreation, and Military Operations | |

Analysis within each issue area includes consideration of the Proposed Project described in Section B, and the alternatives described in Section C. The methodology used in this environmental analysis, including the approach to certain controversial issues, is described below.

Within each of the environmental areas listed above, the discussion of project impacts is presented in the following format:

- Environmental Setting for the Proposed Project
- Applicable Regulations, Plans, and Standards
- Environmental Impacts and Mitigation Measures for the Proposed Project
- Environmental Impacts and Mitigation Measures for Alternatives
- Environmental Impacts of the No Project Alternative
- Mitigation Monitoring, Compliance, and Reporting Table

D.1.2 Environmental Assessment Methodology

D.1.2.1 Environmental Baseline

Pursuant to CEQA Guidelines (Section 15125(a)), the environmental setting used to determine the impacts associated with the Proposed Project and alternatives is based on the environmental conditions that existed in the project area in October 2004 at the time the Notice of Preparation was published.

The environmental baseline includes an operating nuclear power plant at SONGS, including two essentially identical nuclear reactor units, turbine generators, electrical transmission infrastructure, and related facilities, buildings, and systems. Included in the environmental baseline conditions are the existing NRC operating licenses for Units 2 and 3 that allow the facility to operate until 2022. These licenses were approved after a federal environmental review was conducted that included an analysis of the potential environmental impacts associated with the operation of SONGS Units 2 and 3 through the end of the licensing periods. The baseline, therefore, includes any potential environmental effects of operating the nuclear

power plant through the end of the NRC licenses, including the time period between when the OSGs would be expected to reach the NRC-mandated plugging limit as early as 2009, if not replaced with the Proposed Project, and the end of the NRC operating licenses in 2022.

Comments received during the Scoping Period, following the publication of the Notice of Preparation, pointed out that routine operation of the nuclear power plant affects the existing environment. These environmental effects have been previously reviewed and approved by the NRC and predecessor and cooperating agencies prior to and at periodic intervals over the life of the licenses.¹

In the context of this pre-existing environment, wherein SONGS is fully permitted to operate until the end of its NRC operating licenses, this EIR analyzes only the incremental changes that would be caused by the proposed steam generator replacement project. These incremental changes are mainly limited to the short-term effects of steam generator replacement activities. The existence of the operating nuclear power plant through the NRC-authorized license period and its ongoing effects on aesthetics, marine biological resources, public safety, etc., are not a consequence of the Proposed Project. However, as discussed in Section D.1.2.3 below, this EIR's analysis of the No Project Alternative does provide comparative data concerning effects to these resources if SONGS were not to operate between as early as 2009 and the end of the NRC operating licenses in 2022.

D.1.2.2 Beyond the NRC License

This assessment does not evaluate the impacts that could occur if the SONGS facility is operated beyond the license expiration dates. SCE has not formally proposed to renew the licenses, nor is license renewal a reasonably foreseeable outcome of the Proposed Project. While it is true that implementation of the Proposed Project could provide an incentive for SCE to apply to extend the licenses and thus may increase, to some degree, the likelihood that SCE will apply for license extension, there are many other factors and processes that will come into play before SCE decides whether or not to apply for license renewal. In a response to a data request from the CPUC, SCE has stated that it currently has no plans to apply to the NRC for renewal of the operating licenses at SONGS (SCE, 2004a). However, SCE has investigated the information, analysis, and regulatory procedures that would need to be fulfilled prior to filing an application for license renewal. If SCE did eventually choose to seek license renewal for SONGS, such a renewal would allow the facility to operate and generate power for an additional 20 years beyond the original 40-year operating licensing terms for each unit, both of which expire in 2022. If SCE does decide to apply to the NRC for license renewal, then the federal environmental (10 CFR 51) and safety analyses (10 CFR 54) and associated public involvement would be undertaken before the NRC could reach a decision on whether to extend the licenses. At this point, therefore, license renewal is remote

¹ The U.S. Atomic Energy Commission (the precursor to the NRC) conducted an environmental review under NEPA for SONGS when originally licensed. In March 1973, the NRC published the "Final Environmental Statement related to the proposed San Onofre Nuclear Generating Station, Units 2 and 3." The NRC issued a Final Environmental Statement related to the operation of Units 2 and 3, NUREG-0490, in April 1981 pursuant to the requirements of NEPA and 10 CFR 51. This document addressed potential environmental impacts from construction and operation of Units 2 and 3. On February 24, 2000, the NRC published an Environmental Assessment and Finding of No Significant Impact in 65 FR 9301-9303. The NRC assessed the potential environmental impacts from allowing SCE to recapture the construction period and to operate SONGS 2 and 3 until 2022 and concluded that there were no new or un-reviewed environmental impacts (SCE, 2004b).

In addition, SCE received CEQA clearance for storage of mixed waste (hazardous and radioactive) in 1989, 1999, and 2002. SCE also requested and received a CEQA Thermal Plan Exemption to allow Units 2 and 3 to increase the allowable temperature difference between intake and discharge cooling water to 25°F (SCE, 2004b).

and speculative and need not be considered in this document. License renewal is not a reasonably foreseeable consequence of the Proposed Project given the feasibility, analytical, and regulatory hurdles to license renewal. In addition, NRC license renewal is not considered to be a cumulative project because the formal NRC license renewal application process has not been initiated. As mentioned above in Section D.1.2.1, this EIR analyzes the incremental changes of the Proposed Project, which are limited to short-term effects of steam generator replacement activities.

Nonetheless, a separate section describing the NRC license renewal process is provided in Section G of this EIR, for informational purposes only. The discussion identifies the license renewal process time-frame and the NRC environmental and engineering/safety review that would accompany the renewal process. The NRC environmental review conducted according to 10 CFR 51 involves a Generic Environmental Impact Statement (GEIS) that assesses the potential environmental impacts of license renewal. This review would conform with the requirements of NEPA by providing full evaluation of the environmental effects of continued operation of the nuclear power plant. A CEQA process may also occur at that time if the license renewal triggers any discretionary State or local approvals, such as ratemaking decisions by the CPUC. As stated in Section G.1, SCE currently has no plans to apply to the NRC for renewal of the operating licenses at SONGS; however, SCE has taken preliminary steps toward gathering the information that would be needed to consider license renewal for SONGS. See Section G for further details on NRC license renewal procedures and SCE's position on NRC license renewal.

D.1.2.3 No Project Alternative

The No Project Alternative represents a continuation of current environmental conditions, with the foreseeable closure of SONGS, forced by deterioration of the steam generators. Because the original steam generators would not be replaced under the No Project Alternative, they would need to be taken out of service as early as 2009, and SONGS would likely be shut down before the NRC license expiration date. The surrounding area would experience certain beneficial environmental effects by shutting down the routine operation of SONGS, most notably in the areas of marine biological resources, public safety, and traffic and circulation.

With regard to consequences of shutting down the SONGS facility, power generated by SONGS would need to be replaced and modifications to the state-wide transmission system would be needed. A range of replacement generation (including renewable energy sources and demand-side management or conservation) and transmission solutions are considered. The No Project Alternative is described fully in Section C.6.

This environmental assessment does not analyze any specific scenarios for providing replacement power-generating capacity or transmission system upgrades. For the most part, market forces and private investment decisions would dictate how and where replacement power would be provided. Construction and operation of replacement facilities would also be subject to separate permitting processes and environmental review that would need to be completed in the future. It would be unduly remote and speculative to forecast exactly how any replacement power would be provided; given the wide range of possibilities, the types, sizes, number, or locations of replacement power projects that might be constructed under the No Project Alternative cannot be predicted. Therefore, the environmental consequences of the No Project Alternative are discussed in a general manner, given that a detailed analysis of specific power plant or transmission projects would not be possible or meaningful. Because of these limitations, the analysis for the No Project Alternative is at a lesser level of detail than the Proposed Project.

D.1.2.4 Cumulative Impacts

The cumulative impacts of the Proposed Project are also assessed. The focus in the cumulative impact analysis is to identify those project impacts that might not be significant when considered alone, but contribute to a significant impact when viewed in conjunction with future planned projects (listed in Section F).

D.1.2.5 Preemption of State Regulation and Limited Scope of CEQA

As described in Section A, regulation of SONGS by the CPUC is limited by federal laws and regulations governing atomic and nuclear energy. A power plant that uses radioisotopes in the production of energy is required to comply with the federal Atomic Energy Act (42 U.S.C. Section 2011). The NRC was created to issue operating licenses under the Atomic Energy Act and to enforce the requirements of the Act and the licenses. Federal law does not permit the NRC to delegate its responsibility for regulating nuclear power plants to states. According to 10 CFR 50.59, the Proposed Project would require an NRC license amendment only if changes would be made to the parameters outlined in the final safety analysis report. SCE expects that a NRC license amendment for the Proposed Project would not be necessary because all work would be conducted within the terms of the licenses (SCE, 2004b). Federal regulations (e.g., 10 CFR Parts 20, 50, 51, 71, and 72) also govern the possession, handling, storage, and transportation of radioactive materials from a nuclear power plant. See Appendix 4 (MRS, 2005) for more information on the federal regulations that govern these activities. The CPUC is preempted from imposing upon the operators any requirements concerning radiation hazards and nuclear safety.² For these reasons, the EIR analyzes solely for informational purposes project activities that are exclusively regulated by the federal government through the Atomic Energy Act and other regulations.

The scope of CEQA, as stated in CEQA Guidelines [Section 15131(a)], is also limited such that the economic and social effects of a project cannot be treated as significant effects on the environment. Therefore, this EIR provides only general information on the following issues:

- Plant safety and the risk of radiation exposure from normal or upset conditions at the nuclear power plant governed by NRC regulations and preempted from state-level control by the Federal Atomic Energy Act.
- Proper handling or storage of radioactive waste, including the original steam generators, governed by NRC and DOT regulations and preempted from State-level control by the federal Atomic Energy Act.
- Seismic safety of SONGS in its current design and certain permanent project components (e.g., containment after opening), subject to NRC engineering review.
- Emergency response plans, which are not changed by the Proposed Project.
- Economic costs of the Proposed Project and ratepayer issues, which are addressed in the CPUC general proceeding (A.04-02-026).

D.1.2.6 Environmental Consequences and Impact Classification

The Draft EIR evaluates the environmental consequences and potential impacts that the Proposed Project and the alternatives would create. The impacts identified were compared with predetermined significance criteria and were classified according to significance. The same methodology was applied to each alternative. A comparative analysis of the Proposed Project and the alternatives is provided in Section E of this document.

² *Pacific Gas and Electric Company v. State Energy Commission*, 461 U.S. 190, 103 S.Ct. 1713 (1983).

Once a significant impact was identified, diligent effort was taken to identify mitigation measures that would reduce the impact to a less than significant level. Since some of the reviewing agencies require a demonstration of reduction of impacts to the maximum extent possible, mitigation measures were identified for significant adverse impacts. The mitigation measures recommended by this study are summarized in the Mitigation Monitoring, Compliance, and Reporting table at the end of each individual area of environmental analysis (Sections D.2 through D.14). For a discussion of the Mitigation Monitoring Program, refer to Section H.

Impact Significance Criteria. While the criteria for determining the significance of an impact are unique to each area of the environmental analysis, the following classifications were uniformly applied to each identified impact:

- **Class I: Significant; cannot be mitigated to a level that is less than significant.** Class I impacts are significant adverse effects that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
- **Class II: Significant; can be mitigated to a level that is less than significant.** A Class II impact is a significant adverse effect that can be reduced to a less than significant level through the application of feasible mitigation measures presented in the EIR.
- **Class III: Adverse, less than significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
- **Class IV: Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.

A significant impact is defined in CEQA as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project.” The State CEQA Guidelines and various responsible agencies provide guidance for determining the significance of impacts; however, the determination of impact significance for each project is based on the independent judgment of the Lead Agency. Similarly, the establishment of any criteria used to evaluate the significance of impacts is the responsibility of the Lead Agency. Criteria used to determine the significance of the Proposed Project’s impacts are presented in the sections addressing individual environmental issue areas (Sections D.2 through D.14).

D.1.3 References

- SCE (Southern California Edison). 2004a. Letter from William M. Messner, SCE Attorney, to Nicolas Procos, CPUC Project Manager. November 1.
- SCE (Southern California Edison). 2004b. Response to April 15, 2004, Deficiency Notice (A.04-02-026), Question 3. May 24.