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Addendum

July 13, 2020

TO: Coastal Commissioners and Interested Parties

FROM: Alison Dettmer, Senior Deputy Director
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John Weber, Senior Environmental Scientist

SUBJECT: Addendum to Staff Report for Coastal Development Permit 9-15-0228, Special Condition 7, Southern California Edison

This addendum provides correspondence in response to the June 12, 2020 staff report on Coastal Development Permit 9-15-0228, Special Condition 7, regarding the Inspection and Maintenance Program for spent nuclear fuel canisters at San Onofre Nuclear Generating Station (SONGS).

This addendum includes one correction to the staff report and provides staff's response to public comments on this item. In so doing, staff revises its recommended findings to incorporate this correction. These revisions do not change staff's recommendation in the staff report, which is that the Commission approve the Inspection and Maintenance Program in accordance with Special Condition 7 of CDP 9-15-0228.

Revisions to Findings: Staff recommends modifying the staff report as shown below in ~~strikeout~~/underline:

Page 5, last paragraph:

In recent years, the Commission has reviewed several activities at SONGS that have been controversial, largely because of the interim storage of spent nuclear fuel on the SONGS site. Spent nuclear fuel has been stored at SONGS for almost twenty years, as the first interim storage facility was approved in ~~2000~~ 2001 (CDP E-00-014). The Commission approved a second, more recent storage facility in 2015 through CDP 9-15-0028. These actions are described below.

Correspondence Received

The federal Nuclear Regulatory Commission (NRC) provided a letter with updated information on the status of interim spent nuclear fuel storage facilities proposed in New Mexico and Texas, the status of Yucca Mountain, Nevada as a repository for disposal of spent nuclear fuel, and updates on several pieces of proposed legislation in Congress related to spent nuclear fuel storage and transportation. In addition, the NRC letter summarized the outcomes of NRC inspections of spent fuel transfer operations at SONGS over approximately the last year, and a brief overview of NRC requirements regarding spent nuclear fuel storage, inspections, and monitoring. This letter is provided as the first item in the correspondence file.

The applicant for this item, Southern California Edison (SCE), provided a comment letter that is provided in the correspondence file following the NRC letter. This letter indicates SCE's support for the staff report and provides a brief overview of SCE's ongoing effort to develop a strategic plan for the relocation of spent nuclear fuel to an offsite facility.

Several public comments expressed support for the Inspection and Maintenance Program (IMP) for the spent fuel canisters and recommended approval by the Commission.

One commenter provided a link to a federal report identifying and prioritizing topics for further federal Department of Energy research and development related to supporting storage and transport of spent nuclear fuel, suggesting that this report and its findings should be considered in the review of the IMP. The Commission's independent consultant, LPI, provided the following response to this comment:

LPI, Inc. (LPI) reviewed the Department of Energy (DOE) Report "Gap Analysis to Guide DOE R&D in Supporting Extended Storage and Transportation of Spent Nuclear Fuel: An FY2019 Assessment" relative to the review performed of the adequacy of the San Onofre Nuclear Generating Station (SONGS) Inspection and Maintenance Program (IMP) for the period of the California Coastal Commission (CCC) approval of the facility through 2035. The DOE Gap Analysis Report summarizes and prioritizes research and development focus areas (gaps) for the DOE regarding the storage, transportation and disposal of spent nuclear fuels for extended storage timeframes, beyond the current licensed storage timeframe, that is in the case of SONGS, beyond 2035. As such, the IMP is evaluated for adequacy relative to structural integrity for on-site storage and off-site transport for approximately the 15 years of the CCC approval, not the extended period of operation, which is the focus of the DOE Gap Analysis document. That said, the three highest priority "gaps" listed in the DOE report play a role in the susceptibility to stress corrosion cracking (SCC) - the most likely degradation mechanism for the Holtec multi-purpose canisters at SONGS. Consistent with industry practices and current knowledge available for SCC prevention and mitigation, LPI's

Independent Third-Party Review Report conclusions are based on the SONGS-specific: 1) Type 316L stainless steel, having higher corrosion resistance than Type 304/304L Stainless Steel identified in the DOE R&D gap analysis, 2) the additional 0.125 in. of wall thickness used on the canisters to increase corrosion resistance, 3) the fabricating methods used for the SONGS canisters, particularly beneficial compressive residual stresses on the outer surface, 4) monitoring and inspection efforts (temperature monitored daily), and 5) the demonstrated weld repair technology identified in the IMP.

Another commenter suggested that the IMP and the LPI review report inappropriately rely on a draft version of an American Society of Mechanical Engineers (ASME) guidance document as justification for certain conclusions. It is staff's understanding that the revised version of this ASME guidance document has been approved and thus is no longer draft.

An additional comment suggested that the IMP and the LPI review did not consider a particular type of corrosion that could affect the steel of the canisters, and thus the report produced by LPI should be revised. LPI provided the following response:

Appendix B of LPI's Independent Third-Party Review Report includes Southern California Edison's (SCE) Responses dated April 16, 2020. Consistent with guidance provided in the United States Nuclear Regulatory Report NUREG-2214 "Managing Aging Processes in Storage," galvanic corrosion is in the scope of SCE's visual inspections. The...SONGS...IMP indicates that the test canister and select Holtec multi-purpose canisters will be inspected every 2.5 years and every 5 years, respectively, to assess the presence of degradation (if any). Canister repairs will be performed in accordance with the IMP's screening criteria. LPI has extensive experience in materials and corrosion, including galvanic corrosion and stress corrosion cracking, for performing fitness-for-service assessments that are necessary for the continued service of ageing structures and equipment. This knowledge was employed to assess galvanic corrosion potential for effectiveness of the IMP.