



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 20, 2015

Mr. Thomas J. Palmisano
Vice President and Chief Nuclear Officer
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 AND 3 – REVIEW
OF POST-SHUTDOWN DECOMMISSIONING ACTIVITIES REPORT
(TAC NOS. MF4892 AND MF4893)

Dear Mr. Palmisano:

By letter dated June 12, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML131640201), Southern California Edison (SCE or the licensee) submitted a certification to the U.S. Nuclear Regulatory Commission (NRC) indicating that, effective June 7, 2013, SCE had permanently ceased power operations at Units 2 and 3 of the San Onofre Nuclear Generating Station (SONGS). By letters dated June 28, and July 22, 2013 (ADAMS Accession Nos. ML13183A391 and ML13204A304), SCE certified that it had permanently defueled the SONGS Unit 3 and Unit 2 reactor vessels, respectively. As permanently shutdown and defueled facilities, and in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.82(a)(2), SCE is no longer authorized to operate the reactor or emplace nuclear fuel into the SONGS Units 2 or 3 reactor vessels. SONGS Units 2 and 3 are still authorized to possess and store irradiated nuclear fuel. Irradiated fuel is currently being stored onsite in spent fuel pools (SFPs) and in the Independent Spent Fuel Storage Installation (ISFSI) dry casks.

On September 23, 2014, SCE submitted to the NRC the Post-Shutdown Decommissioning Activities Report (PSDAR) and the Site-Specific Decommissioning Cost Estimate (DCE) (ADAMS Accession No. ML14272A121) for SONGS, Units 2 and 3, pursuant to 10 CFR Part 50.82(a)(4). The public receipt of the original PSDAR was noticed in the *Federal Register* on October 14, 2014 (79 FR 61668). The purpose of this letter is to provide you with the results of the NRC staff's review of the PSDAR.

The purposes of the PSDAR and DCE are to: (1) inform the public of the licensee's planned decommissioning activities, (2) assist in the scheduling of NRC resources necessary for the appropriate oversight activities, (3) ensure that the licensee has considered all of the costs of the planned decommissioning activities and has considered the funding for the decommissioning process, and (4) ensure that the environmental impacts of the planned decommissioning activities are bounded by those considered in existing environmental impact statements.

Pursuant to 10 CFR Part 50.82(a)(4)(i), the PSDAR must contain a description of the planned decommissioning activities along with a schedule for their accomplishment, a discussion that provides the reasons for concluding that the environmental impacts associated with site-specific

decommissioning activities will be bounded by appropriate previously issued environmental impact statements, and a site-specific DCE, including the projected cost of managing irradiated fuel. SCE's irradiated fuel management plan (IFMP) was submitted to the NRC on September 23, 2014 (ADAMS Accession No. ML14269A032). While the NRC staff considered public comments about the projected costs of managing irradiated fuel within the PSDAR review, the staff conducted a separate evaluation of the IFMP, as required in 10 CFR Part 50.54(bb). The results of the staff's review of the IFMP is documented in an NRC safety evaluation dated August 19, 2015 (ADAMS Accession No. ML15182A256).

The NRC staff held a public meeting in the vicinity of SONGS, Units 2 and 3, on October 27, 2014, to describe the decommissioning process, receive comments, and answer questions regarding the PSDAR. A summary of the meeting, dated March 9, 2015, can be found at ADAMS Accession No. ML14351A396. Public questions and comments on the PSDAR and other areas related to the site's decommissioning, including the NRC staff's responses, are available for review in the transcript of the meeting (ADAMS Accession No. ML14336A252). The NRC staff also received comments electronically from the public concerning the PSDAR. Public comments submitted electronically can be viewed at <http://www.regulations.gov>, by searching on Docket NRC-2014-0223 and selecting "Open Docket Folder."

Public comments from the PSDAR public meeting and those submitted electronically to the NRC, generally fell into two categories: (1) questions and comments that are within the regulatory purview of the NRC staff's review of the PSDAR, and considered by the staff during its review, and (2) questions and comments that, upon review, were found to be outside the regulatory authority of the NRC, or were not relevant to the review performed by the NRC staff (i.e., whether the licensee's PSDAR meets the requirements of 10 CFR 50.82(a)(4)) and, thus, were not considered.

The public questions and comments that the NRC staff considered during its review of the PSDAR are summarized below. Details of the specific questions or comments can be found in the documents referenced above.

- Questions or comments about whether there is reasonable assurance that sufficient funds are available to decommission the facility, who manages those funds, and the NRC's role in oversight and monitoring the use of these funds.
- Questions or comments about the specific planned activities the licensee listed regarding the decommissioning of the facility. This includes questions about the removal of facility structures. Also considered were comments on the decommissioning process in general, including the role of other governmental agencies that are participating in the decommissioning process (i.e., other than the NRC), and future opportunities for public involvement.
- Questions or comments about the date that the permanent national high level waste storage facility is assumed to be available.
- Questions or comments about the planned availability of the Southern California Edison emergency response center in the City Hall during decommissioning.

- Questions or comments about the lack of specificity in the decommissioning plan, including recordkeeping, and detailed cost estimates.
- Questions or comments about emergency preparedness.
- Questions or comments about the environmental impact of removing the intake and discharge canals.
- Questions or comments related to the projected cost of managing irradiated fuel.

Public comments or questions that, upon review, were found to be outside of the NRC's regulatory purview or outside the scope of the NRC staff's review of the PSDAR, as defined in 10 CFR 50.82(a)(4)(i), are summarized below.

- Questions or comments about the appropriateness or reasonableness of allowing the licensee to pass maintenance and decommissioning costs on to the customer.
- Questions or comments about security regulations and the design-basis threat.
- Questions or comments about the use of the facility after decommissioning is completed.
- Questions or comments about the appropriateness of applying generic evaluations published by the NRC to specific facilities, such as SONGS.
- Questions or comments about the national policy on long term storage of nuclear fuel, except for assumptions regarding the availability of a permanent national high level waste storage facility.
- Questions or comments about the NRC's regulatory authority during the decommissioning period.
- Questions or comments about the adequacy and acceptability of current NRC regulations.
- Questions or comments about federal laws currently undergoing promulgation.
- Questions or comments about the acceptable radiation exposure limit requirements.
- Questions or comments about the performance, design requirements, and the availability of inspection and repair methods of spent fuel storage casks previously certified or under review by the NRC (Note: these issues are addressed during NRC's licensing of the spent fuel storage casks, or during cask license renewal).
- Questions or comments about the licensee's choice of decommissioning method.
- Requests to initiate research are outside the scope of this review and were not considered.

The NRC staff reviewed the PSDAR and DCE against the requirements in 10 CFR 50.82(a). In addition, the staff used the guidance in Regulatory Guide (RG) 1.185, Revision 1 (RG 1.185), "Standard Format and Content for Post-Shutdown Decommissioning Activities Report," dated June 2013 (ADAMS Accession No. ML13140A038), in conducting its review and concludes the following:

1. Section II of the PSDAR, "Description of Planned Decommissioning Activities," and the DCE provide the applicable information identified in Section C(1) of RG 1.185. The NRC staff's review found that the licensee described the activities associated with the major periods or milestones related to the decommissioning, as required by 10 CFR 50.82(a)(4)(i) and consistent with RG 1.185. These periods included "Transition to Decommissioning," "Decommissioning Planning and Site Modifications," "Decommissioning Preps/Reactor Internals Segmentation," "Plant Systems and Large Component Removal," "Building Decontamination," and "License Termination During Demolition."
2. Section II of the PSDAR also provides the estimated dates for initiation and completion of major decommissioning activities, as required by 10 CFR 50.82(a)(4)(i), and consistent with Section C(2) of RG 1.185. The NRC staff finds that the schedule for decommissioning activities is adequate to achieve SONGS, Units 2 and 3, license termination within 60 years of permanent cessation of operations, as required by 10 CFR 50.82(a)(3). Additional schedule information regarding the major decommissioning activities, spent fuel management and site restoration was provided in Appendix C, "Detailed Project Schedule," of the DCE.
3. Section III of the PSDAR, "Estimate of Expected Decommissioning and Spent Fuel Management Costs," provides an estimate of the expected decommissioning costs for SONGS, Units 2 and 3. Section III of the PSDAR references the DCE for specifics regarding the estimated costs associated with decommissioning and spent fuel management. SCE estimated the total decommissioning cost of SONGS, Units 2 and 3 (license termination, spent fuel management, and site restoration), to be approximately \$4.411 billion (in 2014 dollars). SCE estimated the costs associated with only the long-term irradiated fuel management to be \$1.276 billion (in 2014 dollars). The NRC staff reviewed the cost estimates against the guidance in RG 1.185, Section C.3 and finds that SCE's site-specific DCE and the cost of long-term storage of spent fuel for SONGS, Units 2 and 3, are considered reasonable, are described consistent with the guidance in RG 1.185, provide sufficient details associated with the funding mechanisms, and meet the requirements of 10 CFR 50.82(a)(4)(i).
4. Section IV of the PSDAR, "Environmental Impacts," provides a discussion of the potential environmental impacts associated with the SONGS, Units 2 and 3, decommissioning activities, as identified by Section C(4) of RG 1.185. The PSDAR includes a comparison of potential environmental impacts from SONGS, Units 2 and 3, planned decommissioning activities with impacts from similar activities provided in NUREG-0586, Initial Report, "Final Generic Environmental Impact Statement [GEIS] on Decommissioning of Nuclear Facilities," dated August 1988 and Supplement 1, dated November 2002. The GEIS and supplement evaluated the environmental impacts of decommissioning activities at nuclear power reactors necessary to reduce the residual

radioactivity to levels that allow for the termination of the NRC license. The licensee compared the SONGS, Units 2 and 3, facility to the reference facility in NUREG-0586 and found that the SONGS, Units 2 and 3, environmental impacts were bounded by the analysis provided in NUREG-0586. After reviewing the licensee's comparison, the NRC staff finds that the potential environmental impacts associated with SONGS, Units 2 and 3, decommissioning activities are bounded by the previously issued GEIS and its supplements, are described consistent with the guidance in RG 1.185, and meet the requirements of 10 CFR 50.82(a)(4)(i).

Based on this review, the NRC staff finds that the PSDAR contains the information required by 10 CFR 50.82(a)(4)(i), and is consistent with RG 1.185. In accordance with 10 CFR 50.82(a)(7), SCE must notify the NRC in writing before performing any significant decommissioning activity inconsistent with, or making a significant schedule change from, the planned decommissioning activities or schedules described in the PSDAR, including changes that significantly increase the decommissioning costs.

In accordance with 10 CFR Part 2, "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions regarding this letter, please contact Thomas J. Wengert, at 301-415-4037 or by e-mail at Thomas.Wengert@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas J. Wengert". The signature is fluid and cursive, written over a white background.

Thomas J. Wengert, Senior Project Manager
Plant Licensing IV-2 and Decommissioning
Transition Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-361 and 50-362

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radioactivity to levels that allow for the termination of the NRC license. The licensee compared the SONGS, Units 2 and 3, facility to the reference facility in NUREG-0586 and found that the SONGS, Units 2 and 3, environmental impacts were bounded by the analysis provided in NUREG-0586. After reviewing the licensee's comparison, the NRC staff finds that the potential environmental impacts associated with SONGS, Units 2 and 3, decommissioning activities are bounded by the previously issued GEIS and its supplements, are described consistent with the guidance in RG 1.185, and meet the requirements of 10 CFR 50.82(a)(4)(i).

Based on this review, the NRC staff finds that the PSDAR contains the information required by 10 CFR 50.82(a)(4)(i), and is consistent with RG 1.185. In accordance with 10 CFR 50.82(a)(7), SCE must notify the NRC in writing before performing any significant decommissioning activity inconsistent with, or making a significant schedule change from, the planned decommissioning activities or schedules described in the PSDAR, including changes that significantly increase the decommissioning costs.

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If you have any questions regarding this letter, please contact Thomas J. Wengert, at 301-415-4037 or by e-mail at Thomas.Wengert@nrc.gov.

Sincerely,

/RA Christopher Gratton for

Thomas J. Wengert, Senior Project Manager
 Plant Licensing IV-2 and Decommissioning
 Transition Branch
 Division of Operating Reactor Licensing
 Office of Nuclear Reactor Regulation

Docket Nos. 50-361 and 50-362

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***via email**

****SE Dated**

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