



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

August 27, 2014

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 1, 2, AND 3 –
REQUEST FOR ADDITIONAL INFORMATION RE: EMERGENCY PLANNING
EXEMPTION REQUEST (TAC NOS. MF3835, MF3836, AND MF3837)

Dear Mr. Palmisano:

By letter dated March 31, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14092A332), Southern California Edison (SCE) requested an exemption from certain requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.47, "Emergency plans," and 10 CFR Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," for San Onofre Nuclear Generating Station (SONGS), Units 1, 2, and 3. The proposed exemption request would allow SCE to discontinue offsite emergency planning activities and reduce the scope of onsite emergency planning as a result of the permanently shutdown and defueled status of SONGS Units 1, 2, and 3.

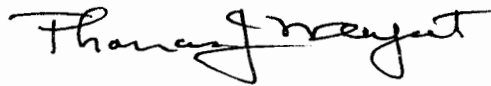
In order to complete its review, the U.S. Nuclear Regulatory Commission staff requests additional information as specified in the Enclosure. The requested information was discussed with your staff during a telephone conversation on July 23, 2014.

T. Palmisano

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If you have any questions, please contact me at (301) 415-4037 or via 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, with the first name "Thomas" being more prominent than the last name "Wengert".

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. 50-206, 50-361, and 50-362

Enclosure:
Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION
EMERGENCY PLANNING EXEMPTION REQUEST
SOUTHERN CALIFORNIA EDISON COMPANY
SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 1, 2 AND 3
DOCKET NOS. 50-206, 50-361, AND 50-362

By letter dated March 31, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14092A332), Southern California Edison (SCE) requested exemptions from portions of Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR 50) for the San Onofre Nuclear Generating Station (SONGS) Units 1, 2, and 3 Radiological Emergency Response Plan. Specifically, SCE requested and exemption from certain emergency plan requirements of 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and Section IV to Appendix E of 10 CFR 50. The requested exemptions would allow SCE to reduce emergency plan requirements and subsequently revise the SONGS Radiological Emergency Response Plan consistent with the permanently defueled condition of the reactors.

SONGS Unit 1 was permanently shut down in 1992 and completed permanent defueling in March 1993. SCE actively decommissioned the facility, and most of the structures and equipment have been removed and disposed.

By letter dated September 12, 2013 (ADAMS Accession No. ML131640201), SCE submitted certification to the U.S. Nuclear Regulatory Commission (NRC) indicating its intention to permanently cease power operations at SONGS Units 2 and 3 as of June 7, 2013, pursuant to 10 CFR 50.82(a)(1)(i). By letters dated June 28, 2013, and July 22, 2013 (ADAMS Accession Nos. ML13183A391 and ML13204A304, respectively), SCE submitted certifications to the NRC for the permanent removal of fuel from the Unit 2 and Unit 3 reactor vessels, pursuant to 10 CFR 50.82(a)(1)(ii). Upon docketing of certifications of the permanent cessation of power operations and for the permanent removal of fuel from the reactor vessels pursuant to 10 CFR 50.82(a)(1)(ii), the 10 CFR Part 50 licenses for SONGS Units 2 and 3 no longer authorize operation of the reactors, or emplacement or retention of fuel into the reactor vessels, as specified in 10 CFR 50.82(a)(2).

In reviewing the request for exemption, the NRC staff used precedent from past emergency preparedness (EP)-related decommissioning exemption reviews, including the reviews submitted for the EP rule changes effective November 23, 2011. The staff also informed our review with guidance and regulations applicable to an Independent Spent Fuel Storage Installation. The staff also considered the analysis described in NUREG-1738, "Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants," February 2001 (ADAMS Accession No. ML010430066).

Based on the NRC staff's initial review of SCE's March 31, 2014, EP exemption request, the following requests for additional information (RAIs) are required to facilitate completion of the staff's technical review:

Enclosure

Note: In the following RAIs, ~~bold strike-out~~ text indicates the requested exemption from rule language. Item numbers are the numbers in the left hand column in Table 1 of Enclosure 2 of the application.

(MF3835) RAI-001

The basis for exemption of Item 1 in Table 1 (Enclosure 2) is generic and does not state specifically why SONGS should be considered for exemption. Similarly, the following item numbers also contain only generic information in the basis for exemption: 3, 4, 5, 9, 11, 17, 18, 20, 23, 25, 26, 32, 43, 48 and 49. Please provide justifications specific to SONGS for granting the exemptions listed above.

(MF3835) RAI-002

The basis for exemption of Item 1 in Table 1 (Enclosure 2) does not address design-basis accidents (DBAs). Please provide a discussion justifying that no currently applicable DBA will exceed U.S. Environmental Protection Agency (EPA) Protective Action Guides.

(MF3835) RAI-003

Item 29 in Table 1 (Enclosure 2) states the following: "Appendix E.IV.D.3: A licensee shall have the capability to notify responsible State and local governmental agencies ~~within 15 minutes~~ promptly (within 60 minutes) after declaring an emergency."

The NRC staff cannot approve the addition of rule language via an exemption, only by issuing rulemaking. Please provide the site-specific justification for extending the notification time beyond 15 minutes, including the notification time to which SONGS will be committed.

(MF3835) RAI-004

Item 40 in Table 1 (Enclosure 2) contains no justification for deletion of "Civil Defense" and "local news media persons." Please provide site-specific justification for exempting these requirements.

(MF3835) RAI-005

Justifications for Items 46 and 47 in Table 1 (Enclosure 2) state: "see basis for section IV.2." The basis for section IV.2 states "see basis for 50.47(b)(10)." Please provide specific justification for these two items or reference the correct section.

(MF3835) RAI-006

10 CFR	SONGS Request Wording	Past Precedent Wording
50.47(b)(10)	A range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Evacuation time estimates have been developed by applicants and licensees. Licensees shall update the evacuation time estimates on a periodic basis. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.	A range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Evacuation time estimates have been developed by applicants and licensees. Licensees shall update the evacuation time estimates on a periodic basis. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

Although formal offsite radiological EP plans have typically been exempted for decommissioning sites, offsite organizations continue to be relied upon for firefighting, law enforcement, ambulance and medical services in support of the licensee's (onsite) emergency plan. Additionally, the licensee is responsible for control of activities in the Exclusion Area, including public access. Please provide further justification as to why this requirement would not be applicable based on the context described above.

(MF3835) RAI-007

10 CFR	SONGS Request Wording	Wording Based on Recent EP Rule Statement of Consideration (SOC)
Appendix E.IV.A.7	By June 23, 2014 Identification of, and a description of the assistance expected from, appropriate State, local, and Federal agencies with responsibilities for coping with emergencies, including and hostile action at the site. For purposes of this appendix, "hostile action" is defined as an act directed toward a nuclear power plant or its personnel that includes the violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles or other devices used to deliver destructive force.	By June 23, 2014 Identification of, and a description of the assistance expected from, appropriate State, local, and Federal agencies with responsibilities for coping with emergencies, including hostile action at the site. For purposes of this appendix, "hostile action" is defined as an act directed toward a nuclear power plant or its personnel that includes the violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles or other devices used to deliver destructive force.

Although the NRC has previously exempted decommissioning reactors from "hostile action" enhancements based on the applicability of the new EP Rule (as stated in the Statement of Considerations), some EP requirements for events are maintained, such as the classification of security-based events, notification of offsite authorities, and coordination for the response of offsite response organizations (i.e., firefighting, medical assistance) onsite. Please revise the requested exemption accordingly or provide further justification for exemption.

(MF3835) RAI-008

10 CFR 50	SONGS Request Wording	Wording Based on Recent EP Rule SOC
Appendix E.IV.C.2	<p>By June 20, 2012, nuclear power reactor Licensees shall establish and maintain the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level. Licensees shall not construe these criteria as a grace period to attempt to restore plant conditions to avoid declaring an emergency action due to an emergency action level that has been exceeded. Licensees shall not construe these criteria as preventing implementation of response actions deemed by the licensee to be necessary to protect public health and safety provided that any delay in declaration does not deny the State and local authorities the opportunity to implement measures necessary to protect the public health and safety.</p>	<p>By June 20, 2012, nuclear power reactor Licensees shall establish and maintain the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level. Licensees shall not construe these criteria as a grace period to attempt to restore plant conditions to avoid declaring an emergency action due to an emergency action level that has been exceeded. Licensees shall not construe these criteria as preventing implementation of response actions deemed by the licensee to be necessary to protect public health and safety provided that any delay in declaration does not deny the State and local authorities the opportunity to implement measures necessary to protect the public health and safety.</p>

State and local jurisdictions may take actions as part of their comprehensive emergency response (all-hazard) planning. Licensee actions shall not impede State and local authorities to respond to emergencies as they determine the need. Please provide specific justification for exempting this requirement or restore language consistent with revised wording proposed.

(MF3835) RAI-009

SCE requested exemptions from the requirements in 10 CFR 50 Appendix E.IV.E.9.a and 10 CFR 50 Appendix E.IV.E.9.c as indicated below:

10 CFR 50 Appendix E.IV.E.9.a

Provision for the communications with contiguous State/local governments ~~within the plume exposure pathway EPZ~~. Such communications shall be tested monthly.

10 CFR 50 Appendix E.IV.E.9.c

Provision for the communications among the ~~nuclear power control room, the onsite technical support center, and the emergency response facility; and among the~~ nuclear facility, the principal State and local emergency operations centers, ~~and the field assessment teams~~. Such communication systems shall be tested annually.

It appears to the NRC staff that 10 CFR 50 Appendix E.IV.E.9.c as exempted would be redundant to 10 CFR 50 Appendix E.IV.E.9.a. Please explain what different organizations would be contacted and what different communication systems would be tested for compliance with 10 CFR 50 Appendix E.IV.E.9.c, as exempted, as opposed to the ones in 10 CFR 50 Appendix E.IV.E.9.a, as exempted.

(MF3835) RAI-010

Exemption of requirements to emergency planning requirements, as requested, partially depends on the ability of the licensee to mitigate the consequences of design basis and beyond DBAs.

Please describe the actions SONGS could take to mitigate the consequences of an event involving the spent fuel pool (SFP). Include in the description:

- Permanently installed equipment available to fill or spray the SFP
- On-site portable equipment available to fill or spray the SFP
- Off-site equipment available to fill or spray the SFP
- Available water sources
- Written procedures to perform the mitigation strategies and how they are maintained
- The personnel who would perform these mitigation strategies and how they are trained
- How the equipment used in the mitigating strategies are stored, maintained and tested
- Approximate times it would take to deliver, setup, and start delivering makeup/spray to the SFP using portable equipment
- How makeup/spray could be delivered to the SFP in the event that radiation levels at the SFP prohibited entry to the area

(MF3835) RAI-011

The Executive Summary in NUREG-1738 states, in part,

... the staff's analyses and conclusions apply to decommissioning facilities with SFPs that meet the design and operational characteristics assumed in the risk analysis. These characteristics are identified in the study as industry decommissioning commitments (IDCs) and staff decommissioning assumptions (SDAs). Provisions for confirmation of these characteristics would need to be an integral part of rulemaking.

The IDCs and SDAs are listed in NUREG-1738, Tables 4.1-1 and 4.1-2, respectively. Please explain the extent each of these IDCs and SDAs will be satisfied at SONGS during the decommissioning phase, considering proposed exemptions from portions of the emergency planning requirements of 10 CFR 50.47(b), 10 CFR 50.47(c)(2) and 10 CFR Part 50, Appendix E. With respect to the seismic checklist discussed in SDA No. 6, the explanation may focus on the reduced potential for a zirconium fire due to the delay in seeking emergency plan changes (i.e., a demonstration that the fuel has decayed such that it can be indefinitely cooled by natural circulation of air in its design storage configuration), as described in Item 10 of the checklist.

(MF3835) RAI-012

The NRC staff determined that the description of the analysis of the adiabatic heatup of the hottest fuel assembly was incomplete as presented in Section 4.1 of Enclosure 1 to the exemption request letter dated March 31, 2014. Please provide the following additional information regarding this analysis:

- the information in the fuel management records (mentioned in Section 4.1.2)
- the process used to determine the limiting assembly from these records, including how assembly axial and core radial power distributions were considered
- the decay heat model used to determine the decay heat rate as a function of decay time
- the source and value used for the specific heat of the uranium dioxide in the limiting assembly
- since two different values of uranium dioxide density are provided (by fuel vendor), specify which value was used for the hottest fuel assembly and why that application is limiting

T. Palmisano

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If you have any questions, please contact me at (301) 415-4037 or via e-mail at Thomas.Wengert@nrc.gov.

Sincerely,

/RA/

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. 50-206, 50-361, and 50-362

Enclosure:

Request for Additional Information

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*via email

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