



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

June 5, 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 1, 2, AND 3 AND  
THE INDEPENDENT SPENT FUEL STORAGE INSTALLATION - ISSUANCE  
OF AMENDMENTS RE: **CHANGES TO THE EMERGENCY PLAN**  
**(TAC NOS. MF3841, MF3842, AND MF3843)**

Dear Mr. Palmisano:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 167 to Facility Operating License No. DPR-13, Amendment No. 229 to Facility Operating License No. NPF-10, and Amendment No. 222 to Facility Operating License No. NPF-15 for San Onofre Nuclear Generating Station (SONGS), Units 1, 2, and 3, respectively, and the independent spent fuel storage installation, in response to the application from Southern California Edison (SCE or the licensee) dated March 31, 2014, as supplemented by letters dated October 21, 2014, March 17, 2015, and April 29, 2015. The amendments revise the SONGS emergency plan to reflect the low likelihood of any credible accident at the plant in its permanently shutdown and defueled condition that could result in radiological releases requiring offsite protective measures. The changes were submitted to the NRC for approval in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54(q)(4).

The amendments revise the SONGS emergency plan to comply with the requirements of 10 CFR 50.47, "Emergency plans," and 10 CFR Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," subject to the exemptions granted to the licensee by the NRC letter to the licensee dated June 4, 2015.

The NRC staff concluded that the revised SONGS emergency plan provides (1) an adequate basis for finding an acceptable state of emergency preparedness, and (2) reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency based on the permanently shutdown and defueled condition of the SONGS facility.

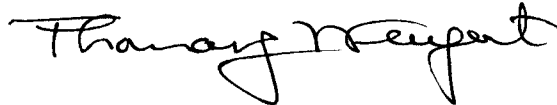
T. Palmisano

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A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Due to the impact these amendments have on various stakeholders, the NRC staff requests that SCE maintain open communications with the NRC's SONGS licensing project manager about the status of the completion of the implementation of these amendments.

Sincerely,



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,  
50-362, and 72-041

Enclosures:

1. Amendment No. 167 to DPR-13
2. Amendment No. 229 to NPF-10
3. Amendment No. 222 to NPF-15
4. Safety Evaluation

cc: Listserv



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

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

DOCKET NO. 50-206

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

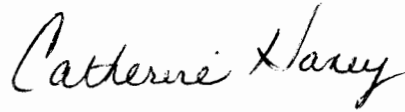
Amendment No. 167  
License No. DPR-13

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Southern California Edison Company, et al. (SCE or the licensee), dated March 31, 2014, as supplemented by letters dated October 21, 2014, March 17, 2015, and April 29, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure 1

2. Accordingly, by Amendment No. 167, Facility Operating License No. DPR-13 is hereby amended to authorize revision to the San Onofre Nuclear Generating Station Emergency Plan as set forth in the Southern California Edison application dated March 31, 2014, as supplemented by letters dated October 21, 2014, March 17, 2015, and April 29, 2015, and evaluated in the NRC staff's safety evaluation dated June 5, 2015.
3. This license amendment is effective upon its issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script that reads "Catherine Haney".

Catherine Haney, Director  
Office of Nuclear Material Safety and Safeguards

Date of Issuance: June 5, 2015



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

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

DOCKET NO. 50-361

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

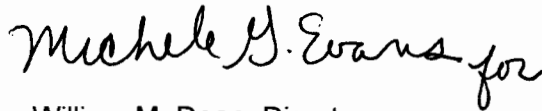
Amendment No. 229  
License No. NPF-10

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Southern California Edison Company, et al. (SCE or the licensee), dated March 31, 2014, as supplemented by letters dated October 21, 2014, March 17, 2015, and April 29, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure 2

2. Accordingly, by Amendment No. 229, Facility Operating License No. NPF-10 is hereby amended to authorize revision to the San Onofre Nuclear Generating Station Emergency Plan as set forth in the Southern California Edison application dated March 31, 2014, as supplemented by letters dated October 21, 2014, March 17, 2015, and April 29, 2015, and evaluated in the NRC staff's safety evaluation dated June 5, 2015.
3. This license amendment is effective upon its issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



William M. Dean, Director  
Office of Nuclear Reactor Regulation

Date of Issuance: June 5, 2015



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WASHINGTON, D.C. 20555-0001

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

DOCKET NO. 50-362

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 222  
License No. NPF-15

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Southern California Edison Company, et al. (SCE or the licensee), dated March 31, 2014, as supplemented by letters dated October 21, 2014, March 17, 2015, and April 29, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure 3

2. Accordingly, by Amendment No. 222, Facility Operating License No. NPF-15 is hereby amended to authorize revision to the San Onofre Nuclear Generating Station Emergency Plan as set forth in the Southern California Edison application dated March 31, 2014, as supplemented by letters dated October 21, 2014, March 17, 2015, and April 29, 2015, and evaluated in the NRC staff's safety evaluation dated June 5, 2015.
3. This license amendment is effective upon its issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*Michelle S. Evans for*

William M. Dean, Director  
Office of Nuclear Reactor Regulation

Date of Issuance: June 5, 2015





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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 167 TO FACILITY OPERATING LICENSE NO. DPR-13,  
AMENDMENT NO. 229 TO FACILITY OPERATING LICENSE NO. NPF-10  
AND AMENDMENT NO. 222 TO FACILITY OPERATING LICENSE NO. NPF-15  
SOUTHERN CALIFORNIA EDISON COMPANY  
SAN DIEGO GAS AND ELECTRIC COMPANY  
THE CITY OF RIVERSIDE, CALIFORNIA  
SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3  
AND THE INDEPENDENT SPENT FUEL STORAGE INSTALLATION  
DOCKET NOS. 50-206, 50-361, 50-362, AND 72-41

1.0 INTRODUCTION

San Onofre Nuclear Generating Station (SONGS), Units 1, 2, and 3 are decommissioning nuclear power reactors located approximately 45 miles southeast of Long Beach, California in San Diego County, approximately 62 miles southeast of Los Angeles and approximately 51 miles northwest of San Diego, on an 84 acre site located entirely within the Camp Pendleton Marine Corps Base. Southern California Edison (SCE or the licensee) is the holder of Facility Operating License Nos. DPR-13 (for SONGS Unit 1), NPF-10 (for SONGS Unit 2) and NPF-15 (for SONGS Unit 3), issued under the Atomic Energy Act of 1954, as amended, and Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," which authorize the licensee to possess and store spent nuclear fuel and greater-than-Class C radioactive waste at the permanently shutdown and defueled SONGS facility.

SONGS Unit 1 was permanently shut down on November 30, 1992. All fuel assemblies were removed from the Unit 1 reactor on March 6, 1993, and Unit 1 is in the decommissioning phase. The SONGS Unit 1 above-ground structures have been dismantled, and the spent fuel from Unit 1 is stored in the onsite dry cask storage facility (independent spent fuel storage installation (ISFSI)), and in the General Electric-Hitachi Morris facility located in Morris, Illinois.

SONGS Units 2 and 3 have been permanently shut down since January 2012. After the reactors were shut down, all fuel assemblies were removed from the reactor vessels and placed

in the spent fuel pools (SFPs) on October 15, 2012, at Unit 3 and on July 18, 2013, at Unit 2. Spent fuel is currently stored onsite in the SFPs and in the onsite ISFSI.

By letter dated June 12, 2013 (Reference 1), SCE submitted a 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 (Reference 2); and July 22, 2013 (Reference 3), SCE submitted certifications of permanent removal of fuel from the Unit 3 and Unit 2 reactor vessels as of October 5, 2012, and July 18, 2013, respectively, pursuant to 10 CFR 50.82(a)(1)(ii). Upon docketing of these certifications, 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).

By letter dated March 31, 2014 (Reference 4), SCE requested a license amendment to replace the SONGS Radiological Emergency Response Plan, with a revised plan, renamed the Permanently Defueled Emergency Plan (PDEP). The revised plan reflects the permanently defueled condition of the SONGS facility.

By letter dated September 18, 2014 (Reference 5), the NRC staff issued a request for additional information (RAI) regarding its review of the license amendment requests for the revised PDEP. In a letter dated October 21, 2014 (Reference 6), SCE provided responses to the RAI, and included a revised version of the proposed PDEP. On March 17, 2015 (Reference 7), SCE further supplemented the amendment application with a revised version of the PDEP, noting that changes made in the October 21, 2014, supplement were not consistently applied throughout the proposed PDEP. By letter dated April 29, 2015 (Reference 8), SCE clarified the implementation period for these amendments.

The supplemental letters submitted by SCE dated March 17, 2015, and April 29, 2015, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* (FR) on December 23, 2014 (79 FR 77049).

## 1.1 Discussion

SCE submitted the proposed SONGS PDEP to the NRC for approval in accordance with 10 CFR 50.54(q)(4), contingent on the NRC's prior approval of certain exemptions from specific requirements of 10 CFR 50.47, "Emergency plans," and Appendix E to Part 50, "Emergency Planning and Preparedness for Production and Utilization Facilities." By letter dated June 4, 2015 (Reference 9), the NRC staff granted SCE exemptions from certain emergency planning (EP) requirements in 10 CFR 50.47 and 10 CFR 50, Appendix E, in accordance with 10 CFR 50.12, "Specific exemptions," and based, in part, on the low risks associated with permanently shutdown and defueled nuclear power reactors.

In granting the requested exemptions, the NRC primarily relied on the SONGS site-specific analyses, which provided reasonable assurance that (1) an offsite radiological release would not exceed the U.S. Environmental Protection Agency's (EPA's) protective action guides (PAGs) at the site's exclusion area boundary (EAB) for the design-basis accidents (DBAs) applicable to the SONGS facility in its permanently shutdown and defueled state; and (2) in the unlikely event

a severe, beyond-DBA results in a loss of all cooling to the spent fuel stored in the SONGS SFPs, sufficient time would be available to initiate appropriate mitigating actions, and if needed, for offsite authorities to implement protective actions using a comprehensive emergency management plan (CEMP)<sup>1</sup> approach to protect the health and safety of the public. The Commission's approval of the requested exemptions is documented in a Staff Requirements Memorandum (SRM), dated March 2, 2015 (Reference 10), responding to SECY-14-0144, "Request by Southern California Edison for Exemptions from Certain Emergency Planning Requirements," dated December 17, 2014 (Reference 11). With the NRC's grant of approval of the requested EP exemptions, SCE states that the proposed SONGS PDEP will continue to meet the remaining applicable planning standards in 10 CFR 50.47(b) and the requirements in 10 CFR Part 50, Appendix E.

## 2.0 REGULATORY EVALUATION

Section 50.47 of 10 CFR Part 50 sets forth emergency plan requirements for nuclear power plant facilities. The regulations in 10 CFR 50.47(a)(1)(i) state, in part, that:

...no initial operating license for a nuclear power reactor will be issued unless a finding is made by the NRC that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

Section 50.47(b) of the Commission's regulations establishes the standards that the onsite and offsite emergency response plans must meet, for the NRC staff to make a positive finding that there is reasonable assurance that the licensee can and will take adequate protective measures in the event of a radiological emergency.

Appendix E, Section IV, "Content of Emergency Plans," to 10 CFR Part 50 provides the requirements for the content of the emergency plans.

The current EP regulations, contained in 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50, apply to both operating power reactors and permanently shutdown and defueled power reactors. However, the EP regulations are silent with regard to the fact that once a power reactor permanently ceases operation and permanently removes fuel from its reactor vessel, the risks of credible emergency accident scenarios at the facility are greatly reduced. Therefore, the consistent practice for permanently shutdown and defueled power reactors has been for their licensees to request exemptions, under 10 CFR 50.12, which allow changes to the facilities' emergency plans commensurate with the credible site-specific risks that are present during decommissioning. Such EP exemptions generally recognize the reduction in radiological

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<sup>1</sup> A CEMP in this context, also referred to as an emergency operations plan (EOP), is addressed in the Federal Emergency Management Agency's (FEMA) Comprehensive Preparedness Guide (CPG) 101, "Developing and Maintaining Emergency Operations Plans." CPG 101 is the foundation for State, territorial, Tribal, and local emergency planning in the United States. It promotes a common understanding of the fundamentals of risk-informed planning and decision making and helps planners at all levels of government in their efforts to develop and maintain viable, all-hazards, all-threats emergency plans. An EOP is flexible enough for use in all emergencies. It describes how people and property will be protected; details who is responsible for carrying out specific actions; identifies the personnel, equipment, facilities, supplies and other resources available; and outlines how all actions will be coordinated. A CEMP is often referred to as a synonym for "all hazards planning."

risk as spent fuel ages and the preclusion of accidents that are strictly applicable to an operating power reactor.

This consistent practice of granting exemptions from the Commission's EP regulations for permanently shutdown and defueled licensees is a well-established part of the NRC regulatory process that allows licensees to address site-specific situations or to implement alternative approaches in response to circumstances that are not necessarily contemplated in regulations that are generally intended for operating power reactors. The exemption process, which allows the NRC to provide relief in appropriate circumstances where safety and security continue to be assured, is not unique to the decommissioning of power reactors or to the specific technical areas of EP. The Commission makes decisions on exemption requests on a site-specific, case-by-case basis, following an established process that includes the NRC staff's detailed technical assessment on individual exemption requests. According to 10 CFR 50.12, the Commission may grant exemptions from the requirements of its regulations, which are authorized by law, will not present an undue risk to the public health and safety, are consistent with the common defense and security, and present special circumstances.

Revision 1 to NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Reference 12), provides a common reference and guidance source for power reactor licensees to develop radiological emergency response plans. NUREG-0654/FEMA-REP-1 provides guidance for the format and content of the emergency plan, which can be applied to the evaluation criteria for each of the planning standards in 10 CFR 50.47(b), as exempted for SONGS.

### 3.0 **TECHNICAL EVALUATION**

#### 3.1 **Emergency Plan**

Pursuant to SCE's certifications of permanent cessation of operations and permanent removal of fuel under 10 CFR 50.82, "Termination of license," no reactor operations can take place and the station is prohibited from moving the fuel from the SFP to the reactor vessel. Consequently, the SONGS PDEP describes the station's plan for responding to emergencies that may arise at SONGS while it is in a permanently shutdown and defueled configuration. Recognizing that there are no longer any credible DBAs that would result in offsite dose consequences that are large enough to require offsite radiological emergency preparedness (REP) plans, the PDEP no longer specifies offsite REP planning activities. Additionally, the onsite emergency planning activities of the SONGS PDEP are reduced in scope. The PDEP specifically implements the planning standards of 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50, as exempted by the NRC's letter to SCE dated June 4, 2015 (Reference 9).

This section of the NRC staff's Safety Evaluation (SE) summarizes the NRC staff's technical evaluation of the SONGS PDEP using the planning standards of 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50, as exempted for SONGS, and the evaluation criteria provided in NUREG-0654/FEMA-REP-1, as applicable to 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50, as exempted for SONGS. **The proposed changes are shown with a strikethrough of the current wording associated with the regulations, as exempted for SONGS.**

### 3.1.1 Assignment of Responsibility (Organizational Control)

Paragraph 50.47(b)(1) of 10 CFR, as exempted for SONGS, requires in a licensee's emergency plan that:

Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations ~~within the Emergency Planning Zones~~ have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

The SONGS Shift Manager position is staffed at the station 24 hours a day. This position is responsible for monitoring conditions and approving onsite activities. The Shift Manager shall assume the position of Emergency Director once an emergency declaration has been made.

Designated on-shift SONGS staff positions are also available 24 hours per day and can perform all required response actions, including initiation of SFP mitigation measures, until the Emergency Response Organization (ERO) arrives. The licensee's onsite ERO will be activated and will augment the on-shift staff during an Alert classification at the direction of the Emergency Director. Figure A-1 of the PDEP (Reference 7) shows the interrelationships of the designated response organizations.

Offsite response organization (ORO) assistance (i.e., fire, ambulance, and local law enforcement agency (LLEA)) is requested by the Emergency Director. The Emergency Director coordinates the ORO's response, plant access, and radiological controls with the onsite activities. State and local government agency offsite response will be in accordance with each agency's CEMP (all hazards) approach, and will be commensurate with the hazard posed by the emergency. Appendix 3 of the proposed PDEP lists letters of agreement for those local agencies that may respond to the site, and for the hospital that may be required to treat a contaminated injured individual from the SONGS site. For law enforcement assistance, letters of agreements for LLEA onsite support are maintained in the SONGS Law Enforcement Response Plan. These include letters of agreement with the following offsite support organizations:

- Air Methods Corporation; Commanding Officer, Marine Corps Base, Camp Pendleton; Orange County Fire Authority (EMS) (ambulance services),
- Tri-City Medical Center; Mission Hospital (offsite medical services),
- Commanding Officer, Marine Corps Base, Camp Pendleton (fire fighters), and
- California State Parks; California Highway Patrol; San Diego County Sheriff; Orange County Sheriff; Federal Bureau of Investigation (FBI); Marine Corps Provost Marshall (law enforcement).

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(1), as exempted for SONGS. The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately describes the concept of operations for individuals and organizations responsible for responding to emergencies at the

site, identifies the position of Emergency Director as the individual in charge of the emergency response, and states staffing is available 24 hours per day to provide emergency response. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(1), as exempted for SONGS, pertaining to assignment of responsibility (organization control), is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.1.2 Onsite Emergency Organization

Paragraph 50.47(b)(2) of 10 CFR requires in a licensee's emergency plan that:

On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified.

SONGS has designated personnel on-shift at all times, including a designated Shift Manager, Certified Operator, and Shift Radiation Protection (RP) Technician, who would provide the initial response to an event. The Shift Manager is the on-shift individual who declares the initial emergency classification, and assumes the role of the Emergency Director. The Shift Manager has the authority to immediately and unilaterally initiate any emergency actions. The PDEP also specifies the non-delegable and delegable responsibilities of the Emergency Director.

Members of the on-shift organization are trained on their responsibilities and duties in the event of an emergency, and are capable of performing necessary response actions until the augmenting ERO arrives or the event is terminated. The on-shift staffing assignments include the roles and responsibilities for their emergency response functions. The relationship between normal and emergency response positions for the on-shift personnel is unchanged when an event occurs.

The SONGS ERO augments the on-shift station organization's ability to respond to declared emergencies. Personnel are trained and assigned to the ERO based on either their normal job qualifications or by being specifically trained to fill a position. The ERO is activated when an Alert is declared at the direction of the Shift Manager. The Shift Manager assumes the responsibilities of the Emergency Director. The Emergency Director is responsible for ensuring that an ERO callout is initiated to augment the on-shift staff. The minimum augmented staff is a Duty ERO Coordinator and a RP Coordinator. The table of on-shift positions and the augmented positions that fulfill emergency staffing capabilities is depicted in Table B.1 of the SONGS PDEP. This table provides a graphical representation of the functional responsibilities for designated on-shift positions and the augmented positions that fulfill emergency staffing capabilities. The supplemental ERO, consisting of a Technical Coordinator, RP Technicians, and other emergency response personnel, may also be activated at the discretion of the Emergency Director and/or the Duty ERO Coordinator. Detailed responsibilities are provided for the following positions: Duty ERO Coordinator, Technical Coordinator, RP Coordinator, and RP Technicians. Major tasks for the Certified Operator, RP Technician, and Station Security are also provided. The ERO Coordinator and RP Coordinator have a 2-hour response time from the declaration of an Alert classification, or at the discretion of the Shift Manager for other events. All other supplemental positions are called-in "as needed," based on the event.



SCE will provide personnel and resource support as needed to mitigate any emergency conditions at the station. Additional support to SONGS is available from offsite organizations, as previously discussed in Section 3.1.1 of this SE. Agreements are maintained with offsite support agencies, which identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the arrangements for the exchange of information. Support is provided in the following areas: fire protection, ambulance services, medical and hospital support, and law enforcement. Letters of agreement for fire and medical support are referenced in Appendix 3 of the PDEP. Law enforcement support is addressed in the SONGS Law Enforcement Response Plan.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(2). The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP identified the onsite ERO and its relationship to the normal shift complement, and that the on-shift individual responsible for emergency response is the Shift Manager, who has the authority and responsibility to initiate the functional responsibilities for emergency response; there is adequate staffing to provide initial facility accident response in key functional areas; timely augmentation of response capabilities is available; local services are identified with letters of agreement in place; and arrangements for the treatment and transportation of contaminated injured personnel are identified. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(2), pertaining to the onsite emergency organization, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.1.3 Emergency Response Support and Resources

Paragraph 50.47(b)(3) of 10 CFR, as exempted for SONGS, requires in a licensee's emergency plan that:

Arrangements for requesting and effectively using assistance resources have been made, ~~arrangements to accommodate State and local staff at the licensee's Emergency Operations Facility have been made~~, and other organizations capable of augmenting the planned response have been identified.

The Emergency Director is authorized to request assistance as needed. Fire, ambulance, and LLEA response is at the request and direction of the Emergency Director. Letters of agreement are in place for those local agencies that will respond to the site and for the local hospital that may be required to treat a contaminated injured individual from the site, as designated in the PDEP. These letters of agreement are discussed in Section 3.1.1, above. Federal agencies, including the NRC, U.S. Department of Homeland Security, FBI, and U.S. Marine Corps Base Camp Pendleton, are also listed along with their overall responsibilities.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(3), as exempted for SONGS. The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately describes the arrangements for requesting assistance from other organizations or individuals in an emergency, and that this assistance is supported by letters of agreement. Based on this review,

the NRC staff concludes that planning standard 10 CFR 50.47(b)(3), as exempted for SONGS, pertaining to emergency response support and resources, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

#### 3.1.4 Emergency Classification System

Paragraph 50.47(b)(4) of 10 CFR, as exempted for SONGS, requires in a licensee's emergency plan that:

*A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.*

The SONGS PDEP identifies that the emergency classification system covers a spectrum of possible radiological and non-radiological emergencies at SONGS. A graded scale of response for distinct classifications of emergency conditions, actions appropriate for those classifications, and criteria for escalation to a more severe classification is provided. The revised emergency classification system categorizes accidents and/or emergency situations into one of two emergency classification levels, depending on emergency conditions at the time of the incident. The emergency classification levels applicable at SONGS, in order of increasing severity, are Notification of Unusual Event and Alert. Each of these emergency classes requires notification of offsite agencies, as designated in the PDEP, as well as the NRC. The classification of emergencies up to an Alert is consistent with the regulations for an ISFSI in 10 CFR 72.32(a)(3), and the exemptions granted, as described in the NRC's letter dated June 4, 2015 (Reference 9).

The SONGS emergency classification system is based on Nuclear Energy Institute (NEI) 99-01, Revision 6 (Reference 13), as applied to a permanently shutdown and defueled power reactor with fuel stored in an SFP and an ISFSI, which specifies emergency classification levels of a Notification of Unusual Event and Alert. Once indications are available to plant operators that an emergency action level (EAL) has been met, the event is assessed and classified, and the corresponding emergency classification level is promptly declared as soon as possible, within 30 minutes. The 30-minute criterion will commence when plant instrumentation, plant alarms, computer displays, or incoming verbal reports corresponding to an EAL first become available to the designated Shift Manager/Emergency Director.

The initiating conditions, their corresponding emergency classification levels, and the technical bases for each classifiable EAL threshold, are contained in the station's EAL Technical Basis Manual, which is based on NEI 99-01, Revision 6.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(4), as exempted for SONGS. The NRC found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies that the emergency classification system covers a spectrum of possible radiological and non-radiological emergencies at SONGS, and a graded scale of response for distinct classifications of emergency conditions, actions appropriate for those classifications, and criteria for escalation to a more severe classification is provided. The specific instruments, parameters or equipment



status are described for each emergency class in the EAL scheme. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(4), as exempted for SONGS, pertaining to the emergency classification system, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

The NRC staff's evaluation of the EAL scheme for SONGS reflecting its permanently shutdown and defueled status is provided in the NRC's letter dated June 5, 2015 (Reference 14).

### 3.1.5 Notification Methods and Procedures

Paragraph 50.47(b)(5) of 10 CFR, as exempted, requires in a licensee's emergency plan that:

Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and followup messages to response organizations ~~and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.~~

The SONGS PDEP identifies the Emergency Director position, which is initially assumed by the on-shift Shift Manager, as having the authority and responsibility for: declaring emergencies, initiating notifications to Federal, State and local officials, and initiating corrective and mitigative actions. Emergency implementing procedures are established for notification and mobilization of ERO personnel. Each emergency classification results in onsite personnel being notified of the initial classification or any escalation of an emergency by recognizable alarms and/or verbal announcements over the Station Public Address System. Announcements include the emergency classification and response actions to be taken by personnel onsite (such as ERO staff, non-ERO staff, contractor personnel, and visitors). Provisions are also made to alert personnel in high noise areas and outbuildings, as applicable. At an Alert classification level, all ERO personnel are notified to respond to augment the on-shift staff complement. Notifications of onsite personnel will be made as soon as possible after the triggering event (emergency declaration or decision to take onsite protective actions) to ensure the actions.

When an emergency classification level is declared or upgraded, initial notifications are promptly made within 60 minutes to the designated warning points for the OROs. The following offsite agencies, at a minimum, will receive initial notification and followup messages:

- California Office of Emergency Services,
- Orange County,
- San Diego County, and
- Marine Corps Base Camp Pendleton.

SONGS, in cooperation with State and local authorities, has established mutually agreeable methods and procedures for notification of OROs, consistent with the approved emergency classification level scheme. The initial notification form will provide the following information if it is known and appropriate:

- location of incident,

- name and telephone number of caller,
- date/time of incident,
- class of emergency,
- type of actual or projected abnormal release (airborne or liquid),
- actual or projected dose rates and/or integrated dose at the site boundary,
- estimate of any abnormal surface radioactive contamination in plant or onsite,
- plant emergency response actions underway,
- request for offsite support from onsite personnel, and
- prognosis for event, based on plant or response team information.

Notification of offsite agencies is the responsibility of the Emergency Director. The primary means of notification to the designated offsite agencies is via commercial telephone with satellite phone serving as the backup means of communication. Followup calls will also be made to each of the lead agencies notified initially, approximately every 2 hours, or at time intervals agreed upon during each event, and will utilize a followup notification form with information similar to the initial notification form.

The Event Notification System (ENS) is a dedicated telephone system used by the licensee to notify the NRC Operations Center. The NRC will be notified as soon as possible after notification of designated offsite agencies, but within 60 minutes of the event declaration. For hostile action events, the NRC is notified immediately following or concurrent with State and local notifications. In the event of the failure of the ENS, commercial phone lines will be used to notify the NRC. Notification of the NRC is the responsibility of the Emergency Director.

Medical, rescue, and firefighting support services are notified for assistance, using normal 911 procedures, as the situation dictates. Requests for offsite support services are the responsibility of the Emergency Director.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(5), as exempted for SONGS. The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies the Emergency Director as having the authority and responsibility for declaring emergencies and initiating notifications to Federal and State officials. SONGS, in cooperation with State and local authorities, has established mutually agreeable methods and procedures for notification of OROs, consistent with the approved emergency classification level scheme and the contents of the initial notification form. Followup calls will also be made to each of the lead agencies notified initially and will utilize a followup notification form with information similar to the initial notification form. Emergency implementing procedures are established for notification and mobilization of ERO personnel. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(5), as exempted for SONGS, pertaining to notification methods and procedures, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.1.6 Emergency Communications

Paragraph 50.47(b)(6) of 10 CFR, as exempted for SONGS, requires in a licensee's emergency plan that:

Provisions exist for prompt communications among principal response organizations to emergency personnel ~~and to the public~~.

Offsite notifications are provided from the licensee's Command Center to the designated offsite agencies' warning points, which are continually staffed, using commercial telephone (primary means of communication) or satellite phone (backup means of communication), as discussed in Section 3.1.5. The communication methods provide a 24-hour capability internal to the plant and for plant-to-offsite communications.

The licensee's Command Center uses the NRC ENS phone system, commercial telephone lines, or other mobile communications devices such as cell or satellite phones to communicate with the respective Federal organizations.

The site's Private Automatic Exchange (PAX) telephone system provides communication capability between telephones located within the plant. The PAX also provides for outside communications through interconnections with the corporate telephone communication system and commercial telephone lines.

Call trees using commercial telephones are used to perform ERO notifications. Satellite phones are available as a backup method. The Station Public Address System may also be used to notify personnel onsite.

Communications with a primary or backup medical hospital and transportation services are established by Station personnel by means of commercial telephone.

Communications equipment checks are addressed in Section 3.1.8 of this SE, while communication drills between SONGS and government agencies' facilities are addressed in Section 3.1.14 of this SE. Communications equipment utilized to notify and communicate with the NRC Headquarters and the appropriate NRC Regional Office Operations Center are tested monthly for operability.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(6), as exempted for SONGS. The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies that provisions exist for prompt communications among principal response organizations to emergency personnel. The communication methods provide a reliable primary and backup means of communication, a 24-hour capability internal to the plant, and for plant-to-offsite communications with Federal, State and local governments. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(6), as exempted for SONGS, pertaining to emergency communications, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.1.7 Public Education and Information

Paragraph 50.47(b)(7) of 10 CFR, as exempted for SONGS, requires in a licensee's emergency plan that:

~~Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors); [T]he principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.~~

The SONGS PDEP identifies the Emergency Director as responsible for notifying SCE's Duty Spokesperson following a SONGS emergency event declaration. SCE's Corporate Communications Department is the principal point of contact for the dissemination of information during an event at the station. The SCE Corporate Communications Department will disseminate information to the public through press releases and media conferences in accordance with current corporate communication protocols. SCE maintains a corporate media line that is available at all times (24/7). A Corporate Communications Spokesperson maintains a liaison with local media and would act as the initial SCE spokesperson for a declared emergency at SONGS. SCE also has a Local Public Affairs officer who acts as a liaison between SCE and State and local public affairs officers to coordinate the timely flow of information and address any misinformation related to the event.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(7), as exempted for SONGS. The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies SCE's Corporate Communications Department as the principal point of contact for the dissemination of information during an event at the station, which will disseminate information to the public through press releases and media conferences in accordance with current corporate communication protocols. SCE also has a Local Public Affairs officer who acts as a liaison between SCE and State and local public affairs officers to coordinate the timely flow of information and address any misinformation related to the event. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(7), as exempted for SONGS, pertaining to public education and information, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.1.8 Emergency Facilities and Equipment

Paragraph 50.47(b)(8) of 10 CFR requires in a licensee's emergency plan that:

Adequate emergency facilities and equipment to support the emergency response are provided and maintained.

The SONGS PDEP identifies the Command Center as the onsite facility used to respond to emergency events. Plant systems and equipment parameters necessary to initiate emergency measures and assess conditions may be monitored in this location. The Command Center



personnel evaluate and control the emergency and initiate activities necessary for coping with the emergency.

The activities conducted by the Command Center staff include:

- initial direction of all plant related operations;
- accident recognition, classification, mitigation and initial corrective actions;
- activation of emergency response facilities and ERO notification;
- notification of offsite agencies; and
- continuous evaluation of the magnitude and potential consequences of an incident.

The Command Center is open on a continuing basis; there is no activation needed. The augmented ERO, which initially consists of the Duty ERO Coordinator and RP Coordinator, reports to the Command Center within 2 hours of declaration of an Alert classification, or at the discretion of the Shift Manager for other events.

Station instrumentation provide a display of plant parameters in the Command Center from which the safety status of systems can be assessed. Key parameters are: gaseous effluent monitor readings, radiation levels, and fuel handling area radiation levels. Portable radiation and contamination monitoring instruments and sampling equipment, normally utilized and maintained by the station, are available for emergency use. The station maintains meteorological instrumentation for near instant time readings of wind speed and direction to provide guidance if onsite protective actions are implemented. The Command Center also has internet capabilities, which allow access to geophysical (i.e., meteorological and seismic) information.

The Command Center and emergency equipment are inspected and inventoried quarterly and after each use, in accordance with station procedures. These procedures provide information on location and availability of emergency equipment and supplies. A system of sealed containers or facilities may be utilized versus actual performance of item-by-item inventories.

Station procedures identify the general category of equipment and supplies that make up equipment available to assist with emergency response, and requirements for inventorying and testing equipment. General types of equipment available to support emergency response include: radiation monitoring equipment, contamination control supplies, decontamination equipment and supplies, protective clothing, damage control and mitigation equipment, communications and radio equipment, and supplemental lighting. Communications equipment utilized to notify and communicate with the NRC Headquarters and the appropriate NRC Regional Office Operations Center are tested monthly for operability.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(8). The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies the Command Center as the onsite facility used to respond to emergency events; plant systems and equipment parameters necessary to initiate emergency measures and assess conditions may be monitored in this location. Station procedures identify the general category of equipment and supplies that make up equipment available to assist with emergency response, and requirements for inventorying and testing

equipment. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(8), pertaining to emergency facilities and equipment, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.1.9 Accident Assessment

Paragraph 50.47(b)(9) of 10 CFR, as exempted for SONGS, requires in a licensee's emergency plan that:

Adequate methods, systems, and equipment for assessing and monitoring actual or potential ~~offsite~~ consequences of a radiological emergency condition are in use.

The SONGS PDEP identifies that EAL thresholds have been established in accordance with NEI 99-01, Revision 6. The EAL Technical Bases Manual identifies the system parameter and effluent parameter values that can be used to determine the emergency condition. Emergency plan implementing procedures (EIPs) and EAL user aids have been developed to identify the system and effluent parameter values that are used to determine the appropriate emergency classification level.

Onsite capabilities and resources are available to provide initial and continuing information for accident assessment throughout the course of an event, including area and process radiation monitoring systems. Station-specific dose assessment procedures address calculating accumulated or projected dose. Radiological instrumentation readings and meteorological data are used to project dose rates at the site boundary, and to determine the integrated dose received. Dose estimates will be performed to determine projected onsite doses and potential offsite consequences of any release to the environment.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(9), as exempted for SONGS. The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies the onsite capabilities and resources available to provide initial and continuing information for accident assessment throughout the course of an event, including area and process radiation monitoring systems, and station-specific dose assessment procedures that address calculating accumulated or projected dose. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(9), as exempted for SONGS, pertaining to accident assessment, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.1.10 Protective Response

Paragraph 50.47(b)(10) of 10 CFR, as exempted for SONGS, requires in a licensee's emergency plan that:

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.~~

The SONGS PDEP identifies the protective actions for onsite personnel, including station personnel, contractors and visitors (members of the public) located onsite, and will include:

- criteria for ordering a site evacuation;
- means and timely notification of onsite persons impacted;
- ability to account for individuals within the Protective Area within 30 minutes from the time accountability is initiated;
- provisions for determining and maintaining accountability of assembled and evacuated personnel, and for identifying and determining the locations of personnel that were not evacuated; search and rescue;
- evacuation routes and means for transporting onsite personnel (e.g., privately owned vehicles, buses, company (SCE) vehicles);
- monitoring of evacuees for contamination and control measures if contamination is found; and
- a means for evacuating and treating onsite injured personnel, including potentially contaminated personnel.

Protective equipment and supplies will be distributed, as needed, to personnel remaining or arriving onsite during an emergency to minimize the effects of radiological exposures or contamination. ERO personnel may be required to use respiratory protection in any environment involving exposure to airborne radionuclides, an oxygen deficient atmosphere, or where air quality is in doubt. In the presence of airborne particulates, qualified emergency response personnel may be directed by radiation protection personnel to use full-face filter type respirators. Self-Contained Breathing Apparatus is available for use by the ERO when needed due to hazardous conditions. The criteria for issuance of respiratory protection are described in station procedures. Anti-contamination clothing, located in station dress out areas, is available for use by onsite personnel. The criteria for issuance of protective clothing are described in station procedures.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(10), as exempted for SONGS. The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies the protective actions for onsite personnel, including station personnel, contractors and visitors (members of the public) and provides that protective equipment and supplies will be distributed, as needed, to personnel remaining or arriving onsite during an emergency. Evacuation routes, the means for transporting onsite personnel (e.g., privately owned vehicles, buses, company vehicles) and the radiological monitoring of evacuees for contamination are described in the PDEP. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(10), as exempted for SONGS, pertaining to protective response, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.1.11 Radiological Exposure Control

Paragraph 50.47(b)(11) of 10 CFR requires in a licensee's emergency plan that:

Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides.

Emergency worker dose limits are established for designated activities and under specific conditions. SONGS maintains personnel exposure control programs in accordance with 10 CFR 20, "Standards for Protection against Radiation," under normal conditions. Station EIPs are in place for expeditious decision-making with reasonable consideration of the relative risks involved in a lifesaving mission involving radiation exposure.

Periodic habitability surveys of the Command Center are also performed during an emergency. If the facility is determined to be uninhabitable, the facility is evacuated in order to prevent or minimize exposure to radiation and radioactive materials. Assembly areas are established, as necessary, to relocate and monitor personnel evacuated from areas of the station.

Emergency workers are issued permanent reading dosimeters as a means for recording exposure for permanent records prior to entering a radiologically controlled area. Additionally, personnel are issued digital dosimetry capable of measuring dose and dose rate on a real time basis. Emergency worker dose records are maintained in accordance with the emergency and radiological protection procedures. Emergency workers are instructed to read their dosimeters frequently. Permanent reading dosimeters may be processed with increased periodicity during an event.

The SONGS PDEP further provides that during emergency conditions, normal station contamination control criteria will be adhered to as much as possible. However, these limits may be modified by the Emergency Director, should conditions warrant. Contaminated personnel will normally be attended to at an onsite decontamination area, in accordance with radiation protection procedures. Decontamination showers and supplies are provided at those onsite areas. If contamination above acceptable levels is found, personnel will be decontaminated, in accordance with station procedures. Processes for the control of solid contaminated waste are established. Shower and sink drains are routed to where the liquid is contained or is processed and monitored prior to discharge.

Onsite contamination controls are established to contain the spread of loose surface radioactive contamination. Contaminated areas are isolated as restricted areas with appropriate radiological protection and access control. Personnel leaving contaminated areas are monitored to ensure that both, they and their clothing, are not contaminated. Supplies, instruments, and equipment that are in contaminated areas or have been brought into contaminated areas will be monitored prior to removal. Items found to be contaminated, will be decontaminated using normal plant decontamination techniques and facilities or may be disposed of as radioactive waste. Measures will be taken to control onsite access to potentially contaminated potable water and food supplies. Contamination control criteria for returning areas and items to normal use are contained in the station procedures.



The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(11). The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies the means for controlling radiological exposures for emergency workers. Emergency worker dose limits are established for designated activities and under specific conditions. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(11), pertaining to radiological exposure control, is addressed in an acceptable manner in the PDEP, **considering the permanently shutdown and defueled status of the facility.**

### 3.1.12 Medical and First Aid Support

Paragraph 50.47(b)(12) of 10 CFR requires in a licensee's emergency plan that:

Arrangements are made for medical services for contaminated injured individuals.

The SONGS PDEP identifies that arrangements, by letter of agreement or contract, are maintained with primary and backup hospitals or medical facilities located in the vicinity of the station as discussed in Sections 3.1.1 and 3.1.3 of this SE. These facilities are equipped and qualified for receiving and treating contaminated or exposed persons with injuries requiring immediate hospital care. The SONGS PDEP further provides arrangements that are made by the station for prompt ambulance transport of persons with injuries involving radioactivity to designated hospitals. Such service is available on a 24-hour per day basis and is confirmed by letter of agreement.

The station maintains onsite first aid supplies and equipment necessary for the treatment of contaminated or injured persons. Medical treatment given to injured persons is of a "first aid" nature. The functions of station personnel in handling onsite injured people are: administer first aid, including such resuscitative measures as are deemed necessary; begin decontamination procedures; and arrange for suitable transportation to a hospital when required.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(12). The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies that arrangements are maintained with primary and backup hospitals or medical facilities located in the vicinity of the station, arrangements have been made for prompt ambulance transport of persons with injuries involving radioactivity to designated hospitals, and the station maintains onsite first aid supplies and equipment necessary for the treatment of contaminated or injured persons. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(12), pertaining to medical and first aid support, is addressed in an acceptable manner in the PDEP, **considering the permanently shutdown and defueled status of the facility.**

### 3.1.13 Recovery and Reentry

Paragraph 50.47(b)(13) of 10 CFR requires in a licensee's emergency plan that:

General plans for recovery and reentry are developed.

The SONGS PDEP provides that during a declared emergency, a point will be reached at which the plant will be placed in a stable condition. With the understanding that this condition could be attained, even though specific EALs are still exceeded, the Emergency Director will determine whether there is no longer a need to keep the emergency organization in effect and begin plant recovery.

The SONGS PDEP identifies that the general goals for plant recovery are:

- an orderly evaluation of the cause and effect of the emergency and the implementing of solutions to prevent the immediate recurrence of the incident;
- a planned approach for returning the plant to a stable condition by obtaining the appropriate manpower, materials, and equipment needed to accomplish that end;
- an evaluation of the radiation exposure records for all onsite emergency response personnel involved in the incident; and
- a planned approach to ensure that radiation exposures and contamination control are in keeping with the plant's RP program.

The licensee's recovery organization will be based on a normal SONGS organization and will function with a SONGS executive management position responsible for directing all site activities. If the event results in additional support being required to return the site to pre-event status, along with increased interface with offsite agencies and/or media involvement, a typical recovery organization will include the following positions:

- Recovery Director (Senior Management),
- Onsite Recovery Manager (reporting to this position are the Technical Coordinator/Corporate Support and the Radiation Protection Coordinator/Radiation Protection Technicians),
- Offsite Agency Liaison – typically the Emergency Preparedness Manager, and
- Public Information Liaison – SCE Corporate Communications Department.

SCE will provide, or arrange for, additional technical, maintenance, radiation protection and other support, as needed, to restore SONGS to pre-event condition.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(13). The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies the general goals for plant recovery and that the licensee's recovery organization will be based on a normal SONGS organization and will function with a SONGS executive management position responsible for directing all site activities. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(13), pertaining to recovery and reentry, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.1.14 Exercises and Drills

Paragraph 50.47(b)(14) of 10 CFR requires that a licensee's emergency response plan contain:

Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.

As noted in the PDEP, SONGS conducts a biennial exercise in order to:

- test the adequacy of timing and content of implementing procedures and methods;
- test emergency equipment and communication networks; and
- ensure that emergency personnel are familiar with their duties.

Each exercise will be evaluated by station evaluators. For alternating years, an integrated drill will be conducted for the purpose of testing, developing, and maintaining the proficiency of emergency responders. Biennial exercises and alternate year integrated drills will allow the ERO to demonstrate principal functional areas at least once every 6 years.

The scenarios used for biennial exercise and drills will include, but not be limited to, the following:

- the basic objective(s) used in the exercise;
- the date(s), time period, place(s), and participating organizations;
- a time schedule of real and simulated initiating events; and
- a narrative summary describing the conduct of the drill, to include such items as simulated casualties, offsite fire assistance, rescue of personnel, and use of protective clothing.

The following equipment and proficiency drills may be performed as part of the biennial exercise, integrated drill, or as an independent drill:

- communication drills conducted monthly with State and local agencies, and quarterly with NRC;
- radiation protection drills to include:
  - analysis of simulated airborne and liquid samples and direct radiation measurements within the plant (conducted semi-annually); and
  - collection of all sample media (conducted annually).

Radiation protection drills will include demonstration of communications and recordkeeping. Also, at least once during the drill cycle, State and local organizations will be invited to participate.

- medical emergency drills (conducted annually);
- augmentation drills; and
- fire drills (conducted at least annually).

The ability of personnel to self-evaluate weaknesses and identify areas for improvement is the key to a successful ERO performance. SONGS, when requested, will allow individuals from Federal, State, and local governments to observe scheduled exercises. The PDEP further provides that exercise and drill performance objectives are evaluated against measurable demonstration criteria.

As soon as possible following the conclusion of each exercise or drill, a critique, which will include participants and evaluators, is conducted to evaluate the ability of the ERO to implement the PDEP and its procedures. A formal written critique report is prepared following an exercise or drill involving the evaluation of designated objectives. The report evaluates and documents the ability of the ERO to respond to a simulated emergency situation. The report will also reference corrective action documents and recommendations. Drill/exercise records and reports are to be formulated and maintained. The reports should include a summary of the drill/exercise scenario, objectives, and response actions demonstrated during the drill/exercise. Critique findings from participants, controllers and evaluators should be entered in the corrective action program for evaluation. The Emergency Preparedness Manager is responsible for ensuring that items identified in the critique are correctly dispositioned and ensuring resolution of each item.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(14). The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies the general goals for exercises and drills, the intent of exercise scenarios, and that exercise and drill performance objectives are evaluated against measurable demonstration criteria. As soon as possible following the conclusion of each exercise or drill, a critique will be conducted; and the Emergency Preparedness Manager is responsible for ensuring that items identified in the critique are correctly dispositioned and ensuring resolution of each item. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(14), pertaining to exercises and drills, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.1.15 Radiological Emergency Response Training

Paragraph 50.47(b)(15) of 10 CFR requires in a licensee's emergency plan that:

Radiological emergency response training is provided to those who may be called on to assist in an emergency.

The SONGS PDEP identifies that all aspects of emergency preparedness training administration are specified in the station training program. This program identifies the level and the depth to which individuals are to be trained. Appropriate personnel will be trained in areas such as radiation protection, respiratory protection, and first aid or its equivalent, as part of the applicable training programs.

Training is provided or formally offered annually to OROs (e.g., local law enforcement, fire-fighting, rescue, medical services, transport of injured, etc.) that may be called upon to provide assistance in the event of an emergency. The training made available is designed to acquaint the offsite responders with the special problems potentially encountered during a

nuclear plant emergency at a decommissioning facility (including effects of radiation exposure and radiological contamination), notification procedures, and their expected roles. Designated OROs that may enter the station also receive site-specific emergency response training and are instructed as to the identity (by position and title) of those persons in the onsite organization who will control their support activities.

The SONGS PDEP provides that the training for ERO personnel is developed from the position-specific responsibilities as defined in the PDEP. ERO personnel, in the following categories, receive initial training and retraining each year thereafter:

- Emergency Directors,
- Personnel responsible for accident assessment,
- Radiological assessment personnel,
- Repair and damage control teams,
- Communications personnel,
- Site security force,
- Key SCE Communications Department personnel, and
- State and local support services.

New ERO personnel also receive an initial overview course that familiarizes them with the PDEP by providing basic information in the following areas: planning basis, emergency classifications, ERO and responsibilities, call-out of ERO, emergency response facilities, as well as position-specific information.

Provisions are in place to provide “just in time training” to untrained emergency workers responding to the site during a large-scale event. This includes training on radiological and plant-specific hazards. Records of training for SONGS ERO personnel and for training offered and/or provided for ORO responders will be documented and maintained.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(15). The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies the level and depth of the emergency preparedness training program, to which individuals are to be trained, and the training for ERO personnel is developed from position-specific responsibilities defined in the PDEP. Training is provided or formally offered annually to OROs. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(15), pertaining to radiological emergency response training, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.1.16 Emergency Plan Development and Review

Paragraph 50.47(b)(16) of 10 CFR requires in a licensee’s emergency plan that:

Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained.



The issuance and control of the PDEP and the activities associated with emergency preparedness at SONGS shall be the overall responsibility of the station's Emergency Preparedness Manager. The Emergency Preparedness Manager is also responsible for the overall radiological emergency preparedness program associated with the station and to administer the program to ensure availability of resources in the event of an emergency.

The SONGS PDEP identifies that the individual assigned the duties of the Emergency Preparedness Manager is to maintain an adequate knowledge of regulations, planning techniques, and the latest applications of emergency equipment and supplies. This training may include:

- training courses specific or related to emergency preparedness;
- observation of or participation in drills and/or exercises at other stations;
- participation in industry review and evaluation programs; and
- participation in regional or national emergency preparedness seminars, committees, workshops or forums.

The PDEP is reviewed, and updated as necessary, on an annual basis, which includes required changes identified during audits, assessments, training, drills and exercises. Annually, each letter of agreement will also be reviewed and certified current in order to assure the availability of assistance from each supporting organization not already a party to the individual local agencies' plans. The PDEP volumes and implementing procedures are distributed on a controlled basis.

The PDEP contains a listing, by number and title, of those response and administrative/maintenance procedures that implement the PDEP. The PDEP contains a specific table of contents and is formatted in the same manner as NUREG-0654/FEMA-REP-1. Names and phone numbers of the ERO, support personnel, and applicable offsite organizations shall be reviewed and updated at least quarterly.

The NRC staff reviewed the SONGS PDEP, as described above, against the applicable evaluation criteria in NUREG-0654/FEMA-REP-1 based on 10 CFR 50.47(b)(16). The NRC staff found that the SONGS PDEP met the applicable criteria of NUREG-0654/FEMA-REP-1 because the SONGS PDEP adequately identifies that issuance and control of the PDEP is the responsibility of the Emergency Preparedness Manager and the PDEP is reviewed, and updated as necessary, on an annual basis, which includes required changes identified during audits, assessments, training, drills and exercises. The PDEP and implementing procedures are distributed on a controlled basis. Based on this review, the NRC staff concludes that planning standard 10 CFR 50.47(b)(16), pertaining to emergency plan development and review, is addressed in an acceptable manner in the PDEP, considering the permanently shutdown and defueled status of the facility.

### 3.2 **Emergency Plan Conclusions**

Based on the NRC staff's review of the proposed SCE PDEP, as described in Section 3.1 of this SE, the NRC staff finds that the proposed PDEP meets the standards in 10 CFR 50.47(b) and the requirements in Appendix E of 10 CFR Part 50, as exempted for SONGS, and provides reasonable assurance that adequate protective measures can and will be taken in the event of a

radiological emergency at the facility. Therefore, the NRC staff concludes that the licensee's proposed SONGS PDEP, contained in the enclosure of SCE's letter dated March 17, 2015 (Reference 7), is acceptable and consistent with the exemptions granted as described in the NRC letter dated June 4, 2015 (Reference 9).

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the California State official was notified of the proposed issuance of the amendments. The State official provided detailed comments in a letter dated May 14, 2015 (Reference 15). The following discussion addresses the State's comments, which are quoted from the body of the State's letter:

##### State Comment 1:

The NRC staff asserts in its report dated December 17, 2014 [Reference 11] that the risk of an offsite radiological release is significantly lower and the types of possible accidents are significantly fewer, at a nuclear power reactor that has permanently ceased operations and removed fuel from the reactor vessel than at an operating power reactor. The report notes that on such basis the NRC has previously granted similar exemptions from EP requirements for permanently shut down and defueled power reactor licensees. **But the NRC fails to consider circumstances unique to California's coastal nuclear facilities: risks to public health and safety associated with and exacerbated by the state's seismicity and risk of tsunami.**

##### NRC Response 1:

The site characteristics regarding external hazards for the SONGS decommissioning facility are no different than those that existed when SONGS, Units 2 and 3, were operating nuclear power reactors. The NRC regulations require that those structures, systems, and components that are important to safety must be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunamis, and seiches without loss of the capability to perform those safety functions necessary to cope with appropriate combinations of natural phenomena and plant conditions. As discussed in the SONGS Units 2 and 3, Updated Final Safety Analysis Report (UFSAR), the designs at SONGS are based upon the most severe of the natural phenomena recorded for the site and surrounding area, with an appropriate margin to account for uncertainties in the historical data. In addition, the licensee has described the analyses performed for these hazards in the UFSAR. As such, the protection against site-specific hazards such as earthquakes and tsunamis remain in place for the structures, systems, and components that are important to safety in the decommissioning facility.

##### State Comment 2:

The [Permanently Defueled Emergency Plan] **license amendment request would decrease the safeguards to public health and safety in the event of a credible and foreseeable accident scenario at SONGS.**

NRC Response 2:

The NRC staff reviewed SCE's request against the requirements in 10 CFR 50.47, Appendix E to 10 CFR Part 50, and 10 CFR 72.32, "Emergency plan," as part of the staff's development of SECY-14-0144 (Reference 11), which was approved by the Commission in a Staff Requirements Memorandum to SECY-14-0144 dated March 2, 2015 (Reference 10). The review considered: the status of the facility, which is permanently shut down and fuel is permanently removed from the reactor vessel, and the low likelihood of any credible accident resulting in radiological releases requiring offsite protective measures. The NRC staff based its evaluation of SCE's request for exemptions from EP requirements on the site-specific analyses provided by SCE, which were reviewed and verified by the NRC staff. The analyses provide reasonable assurance that in granting the requested exemption to SCE: (1) an offsite radiological release will not exceed the EPA PAGs at the EAB for a remaining applicable DBA; and (2) in the unlikely event of a beyond DBA resulting in a loss of all SFP cooling, there is sufficient time to initiate appropriate mitigating actions and, if a release is projected to occur, for offsite agencies to initiate protective actions using a comprehensive emergency management (all-hazards) process to protect the health and safety of the public.

State Comment 3:

[ ... ] the requested exemptions outlined above would eliminate the breadth of SCE's obligations to keep the State emergency response organizations and the general public informed in the event of an emergency.

NRC Response 3:

Certain obligations would be eliminated, but the licensee would still be required to keep State and local response organizations and the public informed, in the event of an emergency. The proposed SONGS PDEP identifies the Emergency Director position, which is initially assumed by the on-shift Shift Manager, as having the authority and responsibility for: declaring emergencies and initiating notifications to designated State and local officials. When an emergency classification level is declared or upgraded, initial notifications are promptly made within 60 minutes to the designated warning points for the OROs. The following offsite agencies, as listed in the proposed PDEP, will receive initial notification and followup messages:

- California Office of Emergency Services,
- Orange County,
- San Diego County, and
- Marine Corps Base Camp Pendleton.

As cited in the proposed SONGS PDEP, SCE has, in cooperation with State and local authorities, established mutually agreeable methods and procedures for notification of OROs, consistent with the approved emergency classification level scheme. The initial notification form will provide the following information if it is known and appropriate:

- location of incident,
- name and telephone number of caller,
- date/time of incident,



- class of emergency,
- type of actual or projected abnormal release (airborne or liquid),
- actual or projected dose rates and/or integrated dose at the site boundary,
- estimate of any abnormal surface radioactive contamination in plant or onsite,
- plant emergency response actions underway,
- request for offsite support from onsite personnel, and
- prognosis for event, based on plant or response team information.

The primary means of notification to the designated offsite agencies is via commercial telephone with a satellite phone serving as the backup means of communication. Followup calls will also be made to each of the lead agencies notified initially, approximately every 2 hours, or at time intervals agreed upon during each event, and will utilize a followup notification form with information similar to the initial notification form.

The requirements of 10 CFR 50.47(b) and Appendix E to Part 50, as exempted for SONGS in Reference 9, no longer require the establishment of an alert and notification system to provide a means for the notification of the populace within the Plume Exposure Pathway emergency planning zone.

In regards to public information aspects, the proposed SONGS PDEP identifies the Emergency Director as responsible for notifying SCE's Duty Spokesperson following a SONGS emergency event declaration. SCE's Corporate Communications Department is the principal point of contact for the dissemination of information during an event at the station. The SCE Corporate Communications Department will disseminate information to the public through press releases and media conferences in accordance with current corporate communication protocols. SCE maintains a corporate media line that is available at all times (24 hours a day, 7 days a week). A Corporate Communications Spokesperson maintains a liaison with local media and would act as the initial SCE spokesperson for a declared emergency at SONGS. SCE also has a Local Public Affairs officer who acts as a liaison between SCE and State and local public affairs officers to coordinate the timely flow of information and address any misinformation related to the event.

**State Comment 4:**

The exemptions would further reduce the State's ability to adequately and effectively respond to an emergency by discontinuing the federal requirement for support to State planning and monitoring activities, placing the health and safety of California citizens in jeopardy in the event of a plant emergency.

**NRC Response 4:**

Elimination of formal offsite REP plans, requiring certification by the Federal Emergency Management Agency under 44 CFR Part 350, "Review and Approval of State and Local Radiological Emergency Plans and Preparedness," has previously been allowed for permanently shutdown and defueled power reactors because the risk to public health and safety is expected to be significantly less than when the plant was operating, and the remaining applicable DBAs are not postulated to result in an offsite radiological release exceeding the EPA PAGs at the EAB. The exemption, as approved in Reference 9, removes the requirement for

detailed, pre-planning associated with formal offsite REP plans, which would include requirements for defined emergency planning zones, public alert and notification systems, evacuation time estimates, etc.

While not formally considered as part of the NRC staff's evaluation of SONGS exemption request, by letter dated June 3, 2014, contained in Enclosure 2 of the December 15, 2014, supplement for the emergency planning exemption request (Reference 16), SCE stated that it intended to fully comply with the nuclear power plant funding provisions of California Government Code Section 8610.5, and would continue to provide funding for offsite emergency preparedness, until that section expires in July 2019, and will not seek changes to funding levels without prior consultation with the Interjurisdictional Planning Committee (IPC). Based on this continued funding, in an e-mail dated October 22, 2014 (Reference 17), the SONGS IPC indicated their intent to maintain "emergency response capabilities related to nuclear preparedness throughout the SONGS decommissioning process, and to continue a multiagency partnership to accomplish this goal." The e-mail from the SONGS IPC further states, "As a part of our ongoing emergency planning, we will retain the ability to receive information, independently monitor and assess conditions, and take actions to protect residents, visitors, and emergency workers. Although plans will vary by agency, these public safety capabilities include law enforcement, fire and medical, radiological monitoring, multi-agency coordination, and public information. While most of these capabilities are applicable to a variety of hazards, we will preserve a nuclear power plant-specific focus as a part of our continuing preparedness efforts for as long as necessary."

**State Comment 5:**

[ ... ] SCE's license amendment request does not even contain implementing procedures, preventing the Energy Commission from understanding what changes it would need to make to its emergency response protocols if the exemptions and license amendment request are approved.

**NRC Response 5:**

The NRC staff reviews the licensee's emergency plan to ensure it meets the requirements of 10 CFR 50.47 and Appendix E to Part 50, as exempted for SONGS. A licensee's emergency plan implementing procedures are not required to be submitted, but rather revised and controlled under Section V of Appendix E to 10 CFR Part 50, "Implementing Procedures," and submitted to the NRC within 30 days of any change. Evaluation Criteria P.7 in Section II to NUREG-0654/FEMA-REP-1 only states that the licensee should provide, as part of its emergency plan, an appendix listing procedures required to implement the plan.

The implementation of the proposed SONGS PDEP and EAL scheme by SCE should be coordinated with the respective offsite organizations, based on the SONGS IPC e-mail dated October 22, 2014, cited above in response to Comment 4.

**State Comment 6:**

In sum, the requested exemptions would eliminate substantial emergency plan requirements contained in 10 CFR Part 50, Appendix E, which in turn would necessarily reduce the effectiveness of any emergency plan going forward.

**NRC Response 6:**

The exemptions requested by SCE, and granted by the NRC in Reference 9, are consistent with those previously granted for decommissioning power reactors and approved by the Commission in its SRM to SECY-14-0144 (Reference 10). The license amendments for the proposed SONGS PDEP and EAL scheme are intended to implement the EP exemptions already granted by the NRC in Reference 9, and as such, do not reduce the effectiveness of the licensee's emergency plan, given the reactors' permanently shutdown and defueled status.

**State Comment 7:**

Taken together, the license amendment requests would significantly reduce if not eliminate, notification procedures currently required by 10 CFR Part 50, Appendix E.

**NRC Response 7:**

Limiting the classification of emergency events up to and including an Alert declaration, and associated notification to State and local authorities, as proposed in the SONGS PDEP and EAL scheme, is consistent with the EP exemptions granted by the NRC in Reference 9, to reflect the risk commensurate with power reactors that have been permanently shut down. These exemptions are also consistent with those previously granted for decommissioning power reactors and approved by the Commission in its SRM to SECY-14-0144.

**State Comment 8:**

For instance, the exemptions request proposes that the procedures requiring notification and interaction with State and local agencies as set forth in Part 50, Appendix E be eliminated almost in their entirety, based on the erroneous assumption that SONGS - in its present state with spent fuel in the cooling pool - be viewed as an ISFSI and/or MRS facility.

**NRC Response 8:**

Limiting the classification of emergency events up to and including an Alert declaration, and associated notifications to and interactions with State and local authorities, as proposed in the SONGS PDEP and EAL scheme is consistent with the EP exemptions granted by the NRC in Reference 9, to reflect the risk commensurate with power reactors that have been permanently shut down. These exemptions are also consistent with those previously granted for decommissioning power reactors and approved by the Commission in its SRM to SECY-14-0144, which align EP requirements consistent with 10 CFR 72.32 for ISFSIs/MRS facilities. The licensee will still be required to maintain an onsite emergency plan addressing the notification of designated offsite government officials following an event declaration, and

coordinate the response of ORO (i.e., firefighting, medical assistance) onsite in support of an event.

**State Comment 9:**

[ ... ] the license amendment request fails to adequately analyze a number of credible scenarios whereby public health and safety may be put at risk, including from a seismic event or tsunami, and from the spent fuel rods maintained in the spent fuel cooling pool.

**NRC Response 9:**

An evaluation of accident scenarios was performed under NRC's granting of EP exemption in Reference 9, which is consistent with the accident analyses described in SECY-14-0144. The license amendment requests are not intended to re-evaluate aspects of the EP exemptions already granted by the NRC, but to support implementation of approved exemptions.

As described in SECY-14-0144, in evaluating EP exemption requests, the NRC staff requires that a licensee provide site-specific SFP analyses demonstrating that: (1) remaining applicable DBAs would no longer result in projected dose to the public exceeding U.S. EPA PAGs at the EAB; and (2) spent fuel is no longer susceptible to a zirconium fire or sufficient time would be available to take mitigation measures, and if needed, to implement offsite protective measures following a SFP accident resulting in a loss of SFP water inventory, from a beyond-design-basis event. This would include defined SFP mitigation strategies and the availability of "on-shift" staffing and equipment to promptly initiate the response. Item (2) stated above, conservatively assumes that a beyond-DBA (such as a severe earthquake) has occurred resulting in a loss of SFP water inventory and a worst case (adiabatic) heatup of spent fuel where both water and air cooling are lost.

**State Comment 10:**

The license amendment request, if granted, would eliminate the federal requirement that SCE take responsibility for planning a response to a spent fuel pool emergency that may last more than 10 hours. This problem would be compounded by the lack of clear notification procedures to the State otherwise required by Part 50, Appendix E.

**NRC Response 10:**

The 10-hour period is a conservative minimum time that a licensee must demonstrate is available to implement initial mitigation actions or initiate protective measures, if needed, following the loss of SFP water inventory and uncovering of fuel in the SFP. This does not imply that SCE's responsibility for planning a response to an SFP emergency only applies to the first 10 hours after the loss of SFP water inventory and uncovering of fuel in the SFP, but rather requires that designated mitigative strategies be identified and be capable of prompt implementation by qualified on-shift staffing prior to augmentation. The time available for these actions would likely be much longer than 10 hours because the analysis does not evaluate the time necessary for the large coolant inventory to be lost and the effect of further decay and natural cooling in extending the necessary heatup time.



The SONGS ERO is activated when an Alert is declared at the direction of the Shift Manager, who assumes the responsibilities of the Emergency Director, to augment the on-shift staff. The minimum augmented staff, having a 2-hour response time from the declaration of an Alert, is a Duty ERO Coordinator and a Radiation Protection Coordinator. Additional ERO staffing, consisting of a Technical Coordinator, Radiation Protection Technicians, and other emergency response personnel, may also be activated as needed at the discretion of the Emergency Director and/or the Duty ERO Coordinator. The ERO, upon arrival, will support on-shift staff in the assessment of the event and development and implementation of longer term mitigative strategies, if required.

The licensee will still be required to maintain an onsite emergency plan addressing the notification of designated offsite government officials following an event declaration, and coordinate the response of offsite response organizations (i.e., firefighting, medical assistance) onsite in support of an event.

State Comment 11:

[ ... ] while spent fuel remains stored on-site in wet-cooling pools, the license amendment requests would likely result in a clear reduction in emergency plan effectiveness that cannot meet the requirements of 10 CFR § 50.54(q)(4) and companion Part 50, Appendix E emergency plan requirements.

NRC Response 11:

The exemptions requested by SCE, and granted by the NRC in Reference 9, are consistent with those previously granted for decommissioning power reactors and approved by the Commission in its SRM to SECY-14-0144. The license amendments for the proposed SONGS PDEP and EAL scheme are intended to implement the EP exemptions already granted by the NRC to reflect the risk commensurate with power reactors that have been permanently shut down, and as such, do not reduce the effectiveness of the licensee's emergency plan.

## 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding, which was published in the *Federal Register* on December 23, 2014 (79 FR 77049). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

## 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations; and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

## 7.0 REFERENCES

1. Dietrich, P., Southern California Edison, letter to U.S. Nuclear Regulatory Commission, "Docket Nos. 50-361 and 50-362, Certification of Permanent Cessation of Power Operations San Onofre Nuclear Generating Station Units 2 and 3," dated June 12, 2013 (ADAMS Accession No. ML131640201).
2. Dietrich, P., Southern California Edison, letter to U.S. Nuclear Regulatory Commission, "Docket No. 50-362, Permanent Removal of Fuel from the Reactor Vessel San Onofre Nuclear Generating Station Unit 3," dated June 28, 2013 (ADAMS Accession No. ML13183A391).
3. Dietrich, P., Southern California Edison, letter to U.S. Nuclear Regulatory Commission, "Docket No. 50-361 – Permanent Removal of Fuel from the Reactor Vessel San Onofre Nuclear Generating Station Unit 2," dated July 22, 2013 (ADAMS Accession No. ML13204A304).
4. Palmisano, T. J., Southern California Edison, letter to U.S. Nuclear Regulatory Commission, "Docket Nos. 50-206, 50-361, 50-362, and 72-041, Amendment Application Numbers 223, 267, and 252, Permanently Defueled Emergency Plan, San Onofre Nuclear Generating Station, Units 1, 2, and 3, respectively, and Independent Spent Fuel Storage Installation," dated March 31, 2014 (ADAMS Accession No. ML14092A314).
5. Wengert, T. J., U.S. Nuclear Regulatory Commission, letter Mr. Thomas J. Palmisano, Southern California Edison Company, "San Onofre Nuclear Generating Station, Units 1, 2, and 3, and Independent Spent Fuel Storage Installation – Request For Additional Information Re: License Amendment Request For Permanently Defueled Emergency Plan (TAC Nos. MF3841, MF3842, and MF3843)," dated September 18, 2014 (ADAMS Accession No. ML14248A590).
6. Palmisano, T. J., Southern California Edison, letter to U.S. Nuclear Regulatory Commission, "Redacted Version- Docket No. 50-206, 50-361, 50-362, and 72-041 Response to Request for additional Information and Supplement Regarding Permanently Defueled Emergency Plan Amendment Application Numbers 223, 267, and 252 San Onofre Nuclear Generating Station, Units 1, 2, and 3 and ISFSI," dated October 21, 2014 (ADAMS Accession No. ML14345A338).

7. Palmisano, T. J., Southern California Edison, letter to U.S. Nuclear Regulatory Commission, "Docket No. 50-206, 50-361, 50-362, and 72-041 Permanently Defueled Emergency Plan, Supplement 2, Amendment Application Numbers 223, 267, and 252, San Onofre Nuclear Generating Station, Units 1, 2, and 3 and ISFSI," dated March 17, 2015 (ADAMS Accession No. ML15082A031).
8. Brabec, R. C., Southern California Edison, letter to U.S. Nuclear Regulatory Commission, "Docket No. 50-206, 50-361, 50-362, and 72-041 Permanently Defueled Emergency Plan and Permanently Defueled Emergency Action Levels San Onofre Nuclear Generating Station, Units 1, 2, and 3 and ISFSI," dated April 29, 2015 (ADAMS Accession No. ML15121A721).
9. Wengert, T. J., U.S. Nuclear Regulatory Commission, letter to Mr. Thomas J. Palmisano, Southern California Edison Company, "San Onofre Nuclear Generating Station, Units 1, 2, and 3 and Independent Spent Fuel Storage Installation – Exemptions from Certain Emergency Planning Requirements and Related Safety Evaluation (TAC Nos. MF3835, MF3836, MF3837) dated June 4, 2015 (ADAMS Accession No. ML15082A204).
10. U.S. Nuclear Regulatory Commission, Staff Requirements Memorandum (SRM) to SECY-14-0144, "Request by Southern California Edison for Exemptions from Certain Emergency Planning Requirements," dated March 2, 2015 (ADAMS Accession No. ML15061A521).
11. U.S. Nuclear Regulatory Commission, SECY-14-0144, "Request by Southern California Edison for Exemptions from Certain Emergency Planning Requirements," dated December 17, 2014 (ADAMS Accession No. ML14251A554).
12. U.S. Nuclear Regulatory Commission and Federal Emergency Management Agency, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," NUREG-0654/FEMA-REP-1, Revision 1, November 1980 (ADAMS Accession No. ML040420012).
13. Nuclear Energy Institute (NEI) 99-01, "Development of Emergency Action Levels for Non-Passive Reactors," Revision 6, November 2012 (ADAMS Accession No. ML12326A805).
14. Wengert, T. J., U.S. Nuclear Regulatory Commission, letter to Mr. Thomas J. Palmisano, Southern California Edison Company, "San Onofre Nuclear Generating Station, Units 1, 2, and 3, and Independent Spent Fuel Storage Installation – Issuance of Amendments RE: Changes to the Emergency Action Level Scheme (TAC Nos. MF3835, MF3836, and MF3837)," dated June 5, 2015 (ADAMS Accession No. ML15105A349).
15. Weisenmiller, R., State of California – Natural Resources Agency, California Energy Commission, letter to Annette Vietti-Cook, U.S. Nuclear Regulatory Commission, "San Onofre Nuclear Generating Station (SONGS) – License Amendments Regarding the Revision to Emergency Plan and Emergency Action Levels (TAC Nos. MF3838 through MF3843)," dated May 14, 2015 (ADAMS Accession No. ML15135A304).

16. Palmisano, T. J., Southern California Edison, letter to U.S. Nuclear Regulatory Commission, "Docket No. 50-206, 50-361 and 50-362; and 72-041 Redacted Version of Response to Request for Additional Information Proposed Exemptions from Certain Portions of 10 CFR 50.47 and Appendix E," dated December 15, 2014 (ADAMS Accession No. ML14351A078).
17. Sterdis, Andrea, Southern California Edison, e-mail to Thomas Wengert, U.S. Nuclear Regulatory Commission, "IPC Chairman Kirchner's Write-up," dated October 22, 2014 (ADAMS Accession No. ML14297A489).

Principal Contributors: Michael Norris  
Richard Kinard

Date: June 5, 2015



A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Due to the impact these amendments have on various stakeholders, the NRC staff requests that SCE maintain open communications with the NRC's SONGS licensing project manager about the status of the completion of the implementation of these amendments.

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,  
50-362, and 72-041

Enclosures:

1. Amendment No. 167 to DPR-13
2. Amendment No. 229 to NPF-10
3. Amendment No. 222 to NPF-15
4. Safety Evaluation

cc: Listserv

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**ADAMS Accession No. ML15126A461**

\*concurrence via e-mail \*\*see previous

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