



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

November 30, 2017

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 -
ISSUANCE OF AMENDMENTS TO REVISE THE PERMANENTLY DEFUELED
EMERGENCY PLAN (CAC NOS. L53160, L53161, and L53162)**

Dear Mr. Palmisano:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 168 to Facility Operating License No. DPR-13, Amendment No. 236 to Facility Operating License No. NPF-10, and Amendment No. 229 to Facility Operating License No. NPF-15 for the San Onofre Nuclear Generating Station (SONGS), Units 1, 2, and 3, respectively. The amendments consist of changes to the Permanently Defueled Emergency Plan (PDEP) in response to your application dated December 15, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16355A015), as supplemented by letter dated May 5, 2017 (ADAMS Accession No. ML17160A324). The proposed changes would reflect the new status of the facility, as well as the reduced scope of potential radiological accidents, once all spent fuel has been moved to dry cask storage within the onsite independent spent fuel storage installation (ISFSI), an activity which is currently scheduled for completion in 2019.

The proposed changes replace the SONGS PDEP and associated Emergency Action Level (EAL) Bases Manual (hereafter referred to as the EAL scheme) with an ISFSI-Only Emergency Plan (IOEP) and associated EAL scheme. The NRC staff determined that the proposed SONGS IOEP and associated EAL changes would continue to meet the standards in Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.47, "Emergency plans," and the requirements in Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," of 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," as exempted. As such, the SONGS IOEP and associated EAL changes would provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the SONGS facility.

The NRC staff has determined that its documented safety evaluation does not contain Sensitive Unclassified Non-Safeguards Information (SUNSI) pursuant to 10 CFR 2.390, "Public inspections, exemptions, requests for withholding." In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

T. Palmisano

- 2 -

A copy of the related Safety Evaluation is provided in Enclosure 4. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice. If you have any questions, please contact me at 301 -415-3178, or via e-mail at marlayna.vaaler@nrc.gov.

Sincerely,

/RA/

Marlayna G. Vaaler, Project Manager
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety and Safeguards

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

Enclosures:

1. Amendment No. 168 to DPR-13
2. Amendment No. 236 to NPF-10
3. Amendment No. 229 to NPF-15
4. Safety Evaluation

cc w/encls: Distribution via Listserv

T. Palmisano

- 2 -

**SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 1, 2 AND 3 -
ISSUANCE OF AMENDMENTS TO REVISE THE PERMANENTLY DEFUELED
EMERGENCY PLAN (CAC NOS. L53160, L53161, and L53162)
[NOVEMBER 30, 2017]**

DISTRIBUTION:

PUBLIC RDB r/f RKinard, NSIR
RidsNMSS Resource RidsRgn4MailCenter Resource RBrowder, RIV

ADAMS Accession No. ML17310B482

*by memo **by e-mail

OFFICE	NMSS/RDB/PM	NMSS/DUWP/LA	NSIR/DPR/RLB	OGC/NLO	NMSS/RDB/BC
NAME	MVaaler	CHolston	JAnderson*	HBenowit**	BWatson
DATE	11/7/2017	11/13/2017	8/4/2017	11/17/2017	11/30/2017

OFFICIAL RECORD COPY



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

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

DOCKET NO. 50-206

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 168
License No. DPR-13

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for a license amendment filed by the Southern California Edison Company and the San Diego Gas and Electric Company (the licensee), dated December 15, 2016, as supplemented by letter dated May 5, 2017, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and applicable portions of the Commission's regulations set forth in 10 CFR Chapter I, and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of San Onofre Nuclear Generating Station, Unit 1 (the facility) has been completed in conformity with Construction Permit No. CPPR-13 and the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the applicable rules and regulations of the Commission;
 - D. There is reasonable assurance (i) that the activities authorized by this amended license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with applicable portions of the Commission's regulations set forth in 10 CFR Chapter I;
 - E. The licensee is technically qualified to engage in the activities authorized by this license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;

Enclosure 1

- F. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
 - G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. The issuance of this license is in accordance with 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," of the Commission's regulations and all applicable requirements have been satisfied; and
 - I. The possession of source, byproduct, and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70.
2. Accordingly, the license is amended by changes to paragraph 2.C(2) of Facility Operating License No. DPR-13, and is hereby amended to read as follows:
- (2) Technical Specifications and Environmental Protection Plan
- The Technical Specifications contained in Appendix A, as revised through Amendment No. 168, are hereby incorporated in the license. Southern California Edison Company shall maintain the facility in accordance with the Technical Specifications.
3. This license amendment is effective as of the date Southern California Edison submits a written notification to the NRC that all spent nuclear fuel assemblies have been transferred out of the SONGS spent fuel pools and placed in storage within the onsite independent spent fuel storage installation, and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Bruce A. Watson, CHP, Chief
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety and Safeguards

Attachment:
Change to Facility
Operating License No. DPR-13

Date of Issuance: November 30, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 168

TO FACILITY OPERATING LICENSE NO. DPR-13

DOCKET NO. 50-206

Replace the following page of the Facility Operating License No. DPR-13 with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the area of change.

Facility Operating License No DPR-13

REMOVE

INSERT

3

3

chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

- (5) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Act and the applicable provisions of the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

- (1) Maximum Power Level

The licensee is not authorized to operate the facility as a nuclear reactor.

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 168, are hereby incorporated in the license. Southern California Edison Company shall maintain the facility in accordance with the Technical Specifications.



**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. 236
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 December 15, 2016, as supplemented by letter dated May 5, 2017, 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, as supplemented, 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, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure 2

2. Accordingly, the license is amended by changes to paragraph 2.C(2) of Facility Operating License No. NPF-10, and is hereby amended to read as follows:

- (2) Technical Specifications

- The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 236, are hereby incorporated in the license. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date Southern California Edison submits a written notification to the NRC that all spent nuclear fuel assemblies have been transferred out of the SONGS spent fuel pools and placed in storage within the onsite independent spent fuel storage installation, and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Bruce A. Watson, CHP, Chief
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety and Safeguards

Attachment:
Change to Facility
Operating License No. NPF-10

Date of Issuance: November 30, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 236

TO FACILITY OPERATING LICENSE NO. NPF-10

DOCKET NO. 50-361

Replace the following page of the Facility Operating License No. NPF-10 with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the area of change.

Facility Operating License No NPF-10

REMOVE

3

INSERT

3

- (3) SCE, pursuant to the Act and 10 CFR Part 70, to possess at any time special nuclear material that was used as reactor fuel, in accordance with the limitations for storage, as described in the Final Safety Analysis Report, as supplemented and amended;
 - (4) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required; and possess any byproduct, source and special material as sealed neutron sources that was used for reactor startup;
 - (5) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70 to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - (6) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of San Onofre Nuclear Generating Station, Units 1 and 2 and by the decommissioning of San Onofre Nuclear Generating Station Unit 1.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Deleted
 - (2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 236, are hereby incorporated in the license. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.



**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. 50-362

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 229
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 December 15, 2016, as supplemented by letter dated May 5, 2017, 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, as supplemented, 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, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to paragraph 2.C(2) of Facility Operating License No. NPF-15, and is hereby amended to read as follows:

- (2) Technical Specifications

- The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 229, are hereby incorporated in the license. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date Southern California Edison submits a written notification to the NRC that all spent nuclear fuel assemblies have been transferred out of the SONGS spent fuel pools and placed in storage within the onsite independent spent fuel storage installation, and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Bruce A. Watson, CHP, Chief
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety and Safeguards

Attachment:
Change to Facility
Operating License No. NPF-15

Date of Issuance: November 30, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 229

TO FACILITY OPERATING LICENSE NO. NPF-15

DOCKET NO. 50-362

Replace the following page of the Facility Operating License No. NPF-15 with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the area of change.

Facility Operating License No. NPF-15

REMOVE

3

INSERT

3

- (3) SCE, pursuant to the Act and 10 CFR Part 70, to possess at any time special nuclear material that was used as reactor fuel, in accordance with the limitations for storage, as described in the Final Safety Analysis Report, as supplemented and amended;
- (4) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required; and possess any byproduct, source and special material as sealed neutron sources that was used for reactor startup;
- (5) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70 to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (6) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of San Onofre Nuclear Generating Station, Units 1 and 2 and by the decommissioning of San Onofre Nuclear Generating Station Unit 1.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

- (1) Deleted
- (2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 229, are hereby incorporated in the license. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.



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

SAFETY EVALUATION BY THE OFFICE OF
NUCLEAR SECURITY AND INCIDENT RESPONSE
RELATED TO AMENDMENT NO. 168 TO FACILITY OPERATING LICENSE NO. DPR-13
AND AMENDMENT NO. 236 TO FACILITY OPERATING LICENSE NO. NPF-10
AND AMENDMENT NO. 229 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
DOCKET NOS. 50-206, 50-361, AND 50-362

1.0 INTRODUCTION

The San Onofre Nuclear Generating Station (SONGS), Units 1, 2 and 3, are decommissioning nuclear power reactor units located in San Diego County, California, 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. The licensee, Southern California Edison (SCE), is the holder of Facility Operating License Nos. DPR-13 (Unit 1), NPF-10 (Unit 2) and NPF-15 (Unit 3), which were issued pursuant to the Atomic Energy Act of 1954, as amended, and Part 50, "Domestic Licensing of Production and Utilization Facilities," of Title 10 of the *Code of Federal Regulations* (10 CFR).

SONGS, Unit 1, was granted its provisional operating license by the U.S. Nuclear Regulatory Commission (NRC) on January 1, 1968 (Reference 1), and ceased operation on November 30, 1992 (Reference 2). The licensee completed defueling on March 6, 1993 (Reference 3), and maintained the unit in a safe configuration to support deferred decontamination until June 1999, when it initiated active decommissioning and dismantlement (Reference 4). On December 28, 1993 (Reference 5), the NRC approved the Permanently Defueled Technical Specifications for SONGS, Unit 1. SCE submitted the proposed Decommissioning Plan for SONGS, Unit 1, on November 3, 1994 (Reference 6). As a result of the 1996 revision to the regulations in 10 CFR 50.82, "Termination of license," the NRC replaced the requirement for a decommissioning plan with a requirement for a Post Shutdown Decommissioning Activities Report (PSDAR). On August 28, 1996, the SONGS, Unit 1,

Decommissioning Plan became the SONGS 1 PSDAR (61 FR 67079; December 19, 1996). On December 15, 1998 (Reference 7), SCE submitted an update to the PSDAR to the NRC, as required by 10 CFR 50.82(a)(7), in order to begin planning for the dismantlement and decommissioning of SONGS, Unit 1. Dismantlement of SONGS, Unit 1, is essentially complete and most of the structures and equipment, with the exception of the reactor vessel, have been removed and sent to a nuclear waste disposal facility. All of the SONGS, Unit 1, fuel is being stored in the onsite independent spent fuel storage installation (ISFSI).

By letter dated June 12, 2013 (Reference 8), SCE submitted a certification to the 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 9), and July 22, 2013 (Reference 10), 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, and pursuant to 10 CFR 50.82(a)(2), the SONGS, Units 2 and 3, facility operating licenses no longer authorize operation of the reactors or emplacement or retention of fuel into the reactor vessels.

By application dated December 15, 2016 (Reference 11), as supplemented by letter dated May 5, 2017 (Reference 12), the licensee requested changes to the SONGS Permanently Defueled Emergency Plan (PDEP) pursuant to 10 CFR 50.54(q), "Emergency plans." The proposed changes replace the SONGS PDEP and associated Emergency Action Level (EAL) Bases Manual (hereafter referred to as the EAL scheme) with an ISFSI-Only Emergency Plan (IOEP) and associated EAL scheme. The NRC staff determined that the proposed SONGS IOEP and associated EAL changes would continue to meet the standards in 10 CFR 50.47, "Emergency plans," and the requirements in Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," of 10 CFR Part 50, as exempted. As such, the SONGS IOEP and associated EAL changes would provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the SONGS facility.

The proposed changes would reflect the decommissioning status of the facility, as well as the reduced scope of potential radiological accidents, once all spent fuel has been moved to dry cask storage within the onsite ISFSI, an activity which is currently scheduled for completion in 2019. The supplement to the current application, dated May 5, 2017, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* (FR) on February 14, 2017 (82 FR 10601).

2.0 REGULATORY EVALUATION

This safety evaluation assesses the acceptability of the proposed SONGS IOEP and associated EAL scheme. This plan would replace the current SONGS PDEP and associated EAL scheme after all of the SONGS, Units 2 and 3, spent fuel has been transferred from the spent fuel pools (SFPs) to the expanded onsite ISFSI.

The proposed changes to the SONGS IOEP and associated EAL scheme are required to meet the following regulations, as exempted, in part, by letter dated June 4, 2015 (Reference 13):

- 10 CFR 50.47(b)(1) states, in part: "... each principal response organization has staff to respond and to augment its initial response on a continuous basis";
- 10 CFR 50.47(b)(2) states, in part: "... adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available ...";
- 10 CFR 50.47(b)(4) states, in part: "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...";
- 10 CFR Part 50, Appendix E, Section IV.A states, in part: "The organization for coping with radiological emergencies shall be described, including definition of authorities, responsibilities, and duties of individuals assigned to the licensee's emergency organization...";
- 10 CFR Part 50, Appendix E, Section IV.C.1 states, in part: "The emergency classes defined shall include (1) notification of unusual events, (2) alert...";
- 10 CFR 72.32(a)(3), states: "A classification system for classifying accidents as 'Alerts'"; and
- 10 CFR 72.32(a)(7) states, in part: "A brief description of the responsibilities of licensee personnel should an accident occur...."

The associated guidance documents on which the NRC based its acceptance and evaluation of the proposed changes to the SONGS IOEP and associated EAL scheme are as follows:

- 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 14), provides a common reference and guidance source for nuclear facility operators to develop radiological emergency response plans.
- Office of Nuclear Security and Incident Response / Division of Preparedness and Response (NSIR/DPR) Interim Staff Guidance (ISG) – 2, "Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants" (Reference 15), provides guidance for the review of permanently defueled emergency plans for power reactor sites undergoing decommissioning.
- Office of Nuclear Materials Safety and Safeguards / Spent Fuel Project Office (NMSS/SFPO) ISG – 16, "Emergency Planning" (Reference 16), provides emergency plan review guidance applicable to facilities licensed pursuant to the regulatory requirements found at 10 CFR Part 72, "Licensing Requirements for the Independent

Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste.”

- Nuclear Energy Institute (NEI) document NEI 99-01, Revision 6, “Development of Emergency Action Levels for Non-Passive Reactors” (Reference 17), endorsed by the NRC in a letter dated March 28, 2013 (Reference 18), as generic (non-plant-specific) EAL scheme development guidance.

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee’s regulatory and technical analyses in support of its proposed emergency plan changes, as described in the application dated December 15, 2016, as supplemented by letter dated May 5, 2017. The technical evaluation is detailed below.

3.1 Background

SONGS, Unit 1, has been permanently shutdown since November 30, 1992, and the final removal of fuel from its reactor vessel was completed on March 6, 1993. SONGS, Units 2 and 3, have been shutdown since January 2012, and 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. SONGS is authorized to possess and store irradiated nuclear fuel at the permanently shutdown and defueled SONGS facility. The spent fuel from SONGS, Unit 1, is stored in the onsite ISFSI and at the General Electric-Hitachi Nuclear Energy Americas, LLC, Morris Operation facility (Docket No. 72-01) located in Morris, Illinois. After the SONGS, Units 2 and 3, reactors were shutdown, all fuel assemblies were removed from the reactor vessels and placed in the SONGS SFPs.

By letter dated March 31, 2014 (Reference 19), as supplemented by letters dated September 9, 2014 (Reference 20), October 2, 2014 (Reference 21), October 7, 2014 (Reference 22), October 27, 2014 (Reference 23), November 3, 2014 (Reference 24), and December 15, 2014 (Reference 25), SCE requested exemptions for SONGS from (1) certain planning standards in 10 CFR 50.47(b) regarding onsite and offsite radiological emergency plans for nuclear power reactors; (2) certain requirements in 10 CFR 50.47(c)(2) that require establishment of plume exposure and ingestion pathway emergency planning zones for nuclear power reactors, and (3) certain requirements in 10 CFR Part 50, Appendix E, Section IV, regarding the content of emergency plans. The NRC approved the requested exemptions in a letter dated June 4, 2015 (Reference 13).

By letters dated June 5, 2015, the NRC issued Amendment No. 166 to Facility Operating License No. DPR-13, Amendment No. 228 to Facility Operating License No. NPF-10, and Amendment No. 221 to Facility Operating License No. NPF-15 for SONGS, Units 1, 2 and 3, respectively, and the ISFSI, for changes to the EAL scheme (Reference 26), and 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 SONGS, Units 1, 2, and 3, respectively, and the ISFSI, for changes to the emergency plan (Reference 27). The PDEP and EAL scheme were fully implemented on July 8, 2015 (Reference 28), in accordance with the above-referenced license amendments.

3.2 Proposed Changes

In its application dated December 15, 2016 (Reference 11), as supplemented by letter dated May 5, 2017 (Reference 12), SCE requested that the NRC review and approve a proposed IOEP, including a proposed ISFSI-Only EAL scheme, that is based on NEI 99-01, Revision 6 (Reference 17). The proposed amendments would replace the existing SONGS PDEP and associated EAL scheme, which currently reflect spent fuel from SONGS, Units 1, 2, and 3, being stored in the SFPs and onsite ISFSI. The major changes that SCE is requesting are: (1) removal of the various emergency actions related to the SFPs; (2) removal of non-ISFSI related emergency event types; (3) replacing the "Shift Manager" title with the "ISFSI Shift Supervisor (ISS)" title as the position that assumes the Emergency Director's responsibilities; and (4) a revision to the SONGS Emergency Response Organization (ERO).

The proposed changes modify the scope of onsite emergency preparedness requirements to reflect the reduced potential radiological accidents with all spent fuel in dry cask storage within the ISFSI. The off-normal events and accidents addressed in the SONGS IOEP are related to the dry storage of spent nuclear fuel at the ISFSI, and include only off-normal, accident, natural phenomena, and hypothetical events and consequences affecting the SONGS ISFSI.

Under the previous facility condition with spent fuel stored within the SONGS SFPs, the most severe postulated beyond-design-basis accident involved a highly unlikely sequence of events that cause a heat-up of the spent fuel, postulated to occur without heat transfer, such that the zirconium alloy fuel cladding reaches ignition temperature. While highly improbable, the resultant zirconium alloy fire could lead to the release of large quantities of fission products to the atmosphere. However, after removal of the spent fuel from the SONGS SFPs, the accident scenarios and analyses contained in Chapter 15 of the SONGS, Units 2 and 3, Updated Final Safety Analysis Report (UFSAR) demonstrate that the age and configuration of spent fuel stored in dry cask storage precludes the possibility of such a zirconium alloy fire scenario. As such, after all the spent fuel is transferred to dry cask storage within the SONGS ISFSI, the number and severity of potential radiological accidents is significantly less than when spent fuel was stored in the SFPs. For these reasons, the potential radiological consequences of accidents possible at SONGS after all spent fuel is transferred to the ISFSI are further reduced.

There continues to be no need for formal offsite radiological emergency preparedness (REP) plans under 44 CFR Part 350, "Review and Approval of State and Local Radiological Emergency Plans and Preparedness," at SONGS because no design-basis accident or reasonably credible beyond-design-basis accident can result in radioactive releases that exceed the U.S. Environmental Protection Agency (EPA) Early Phase Protective Action Guides (PAGs) (Reference 29) beyond the exclusion area boundary.

3.3 Evaluation

The NRC staff reviewed the changes from the current SONGS PDEP to the proposed IOEP and ISFSI-Only EAL scheme, including the licensee's evaluation of the changes, to verify that the proposed IOEP and EAL scheme continue to meet the standards contained in 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50 applicable to the approved 10 CFR Part 50 emergency plan for the long-term defueled conditions at SONGS. The NRC staff also performed a review to ensure that the proposed IOEP would be consistent with the

requirements of 10 CFR 72.32 for an ISFSI not located on the site of an operating nuclear power reactor. Although the requirements of 10 CFR 72.32 do not apply to a 10 CFR Part 50 licensee, such as SONGS, the NRC examined these regulations to promote consistency in the emergency planning requirements between specifically licensed and generally licensed ISFSIs. These requirements, and their applicability to facilities licensed under 10 CFR Part 72, are further described by NMSS/SFPO ISG – 16 (Reference 16).

3.3.1 *ISFSI EALs and Removal of SFP Initiating Conditions and EALs*

The initiating conditions (ICs) and EALs associated with the emergency classification levels in the current PDEP are based on Appendix C to NEI 99-01, Revision 6 (Reference 17), which addresses a nuclear power reactor that has permanently ceased operations and transferred spent fuel from the reactor vessel to the SFPs (permanently defueled). After all spent fuel has been removed from the SFPs and placed in dry cask storage within the ISFSI, the ICs and EALs in Appendix C to NEI 99-01 that are associated with the SFPs at a decommissioning facility are no longer required. Additionally, certain ICs and EALs whose primary function is not associated with the SFPs are no longer required when administrative controls are established to limit source term accumulation and the offsite consequences of uncontrolled effluent releases.

Examples of administrative controls for radiological source term accumulation limits and methods to control the accidental dispersal of the radiological source are:

- Limits on radioactive materials collected on filter media and resins (dose rate limit);
- Limits on surface or fixed contamination on work areas that may create airborne radioactive material (activity limits), and
- Limiting dispersal mechanisms that may cause a fire (e.g., limits on combustible material loading, use of a fire watch to preclude fires, etc.) or placement of a berm around a radioactive liquid storage tank.

Other ICs proposed for deletion include those associated with the mitigative strategies contained in certain SCE license conditions, as well as response procedures for potential or actual aircraft attacks. These will be eliminated after all spent fuel is removed from the SFPs and stored in the onsite SONGS ISFSI. The ICs listed in Table 1 below are being deleted, either partially or in their entirety as indicated, from the PDEP and EAL scheme for SONGS. The ICs being deleted are either associated only with SFP operation or are ICs for which administrative controls to limit possible effluent releases have been established.

Table 1: Initiating Conditions to be Deleted or Modified

ALERT	UNUSUAL EVENT
<p><u>PD-AA1 (all EALs)</u></p> <p>Release of gaseous or liquid radioactivity resulting in offsite dose greater than 10 millirems (mrem) total effective dose equivalent (TEDE) or 50 mrem committed dose equivalent (CDE).</p>	<p><u>PD-AU1 (all EALs)</u></p> <p>Release of gaseous or liquid radioactivity greater than 2 times the Offsite Dose Calculation Manual (ODCM) limit for 60 minutes or longer.</p>
<p><u>PD-AA2 (all EALs)</u></p> <p>UNPLANNED rise in plant radiation levels that impedes plant access required to maintain spent fuel integrity.</p>	<p><u>PD-AU2 (all EALs)</u></p> <p>UNPLANNED rise in plant radiation levels.</p>
<p><u>PD-HA1*</u></p> <p>HOSTILE ACTION within the Vehicle Barrier System (VBS) boundary or airborne attack threat within 30 minutes.</p>	<p><u>PD-SU1 (all EALs)</u></p> <p>UNPLANNED spent fuel pool temperature rise.</p>
<p><u>PD-HA1.2</u></p> <p>A validated notification from the NRC of an aircraft attack threat within 30 minutes of the site.</p>	<p><u>PD-HU1.3</u></p> <p>A validated notification from the NRC providing information of an aircraft attack threat.</p>
	<p><u>PD-HU2 (all EALs)**</u></p> <p>Hazardous event affecting SAFETY SYSTEM equipment necessary for spent fuel cooling.</p>

* Only the strike-through portion is being deleted.

** For an ISFSI-only facility, the condition addressed by PD-HU2 remains fully addressed by IC EU1.1 (which is being retained in the SONGS emergency plan).

The currently existing SONGS ICs and EALs not listed in Table 1 are being retained. The ICs and EALs being deleted include all ICs associated with the categories of abnormal radioactivity release and system malfunction. These two categories apply only to SFP operation. The ICs and EALs being retained in the SONGS IOEP are appropriate to address the condition of an ISFSI-only facility (i.e., no fuel stored in the spent fuel pools).

The SONGS ICs and EALs to be retained are listed in Table 2, and include one new EAL being proposed in IC E-HU1, "Damage to a loaded cask CONFINEMENT BOUNDARY," which bounds the deleted ICs. In addition, the new EAL E-HU1.2 provides threshold values for the

AREVA ISFSI and the new HOLTEC ISFSI at SONGS, based on the generic AREVA and HOLTEC Technical Specification values provided in the respective Certificates of Compliance.

Table 2: Initiating Conditions to be Maintained or Added

ALERT	UNUSUAL EVENT
Independent Spent Fuel Storage Installation (ISFSI)	
<p>PD-HA1 HOSTILE ACTION within the VBS boundary.</p> <p>PD-HA1.1 A HOSTILE ACTION is occurring or has occurred within the VBS boundary as reported by the SSS [Security Shift Supervisor].</p>	<p>PD-HU1 Confirmed SECURITY CONDITION or threat.</p> <p>PD-HU1.1 A SECURITY CONDITION that does not involve a HOSTILE ACTION as reported by the SSS.</p> <p>PD-HU1.2 Notification of a credible security threat directed at the site.</p>
<p>PD-HA3 Other conditions exist which in the judgement of the ISS/ED [Emergency Director] warrant declaration of an ALERT.</p> <p>PD-HA3.1 Other conditions exist which in the judgment of the ISS/ED indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the ISFSI or a security event that involves probable life threatening risk to site personnel or damage to ISFSI equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guide exposure levels.</p>	<p>PD-HU3 Other conditions exist which in the judgment of the ISS/ED warrant declaration of an UNUSUAL EVENT.</p> <p>PD-HU3.1 Other conditions exist which in the judgment of the ISS/ED indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the ISFSI or indicate a security threat to the ISFSI has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation occurs.</p>
	<p>E-HU1 Damage to a loaded canister CONFINEMENT BOUNDARY.</p> <p>E-HU1.1 Damage to a loaded Transnuclear canister CONFINEMENT BOUNDARY as indicated by dose rates greater than EITHER of the following:</p> <ul style="list-style-type: none"> • 520 milliroentgen per hour (mR/hr) (gamma) 3 feet from the surface at the top centerline.

	<ul style="list-style-type: none">• 190 mR/hr (gamma) 3 feet from the surface of the neutron shield at the mid-height centerline. <p>E-HU1.2 Damage to a loaded Holtec canister CONFINEMENT BOUNDARY as indicated by dose rates greater than EITHER of the following:</p> <ul style="list-style-type: none">• 60 mR/hr (gamma + neutron) on the top of the closure lid of a VVM [Vertical Ventilated Module], measured in accordance with the EAL Technical Basis.• 7000 mR/hr (gamma + neutron) on the side of a TRANSFER CASK, measured in accordance with the EAL Technical Basis.
--	---

The most severe beyond-design-basis accident postulated for SONGS with spent fuel stored within the SFPs involved a highly unlikely sequence of events that cause heat-up of the spent fuel, postulated to occur without heat transfer, such that the zirconium alloy fuel cladding reaches ignition temperature. Because this limiting, beyond-design-basis scenario is no longer possible due to the transfer of spent fuel from the SFPs to dry cask storage in the onsite ISFSI, SCE assessed the following design-basis accidents associated with the performance of decommissioning activities with all irradiated fuel stored in the SONGS ISFSI: (1) cask drop accident (fuel related accident); (2) radioactive material handling accident (non-fuel related), and (3) accidents initiated by external events.

As discussed in the June 4, 2015, exemption from certain emergency preparedness requirements (Reference 13), an analysis of the potential radiological impacts of a design-basis accident at SONGS in a permanently defueled condition indicated that any releases beyond the exclusion area boundary were below the EPA PAG exposure levels. The basis for these exemptions has not changed and remains in effect for the proposed emergency plan changes. For design-basis accident scenarios (1) and (2), the results of the assessment indicate that the projected radiological doses at the exclusion area boundary are less than the EPA PAGs. The effects of external events, such as fires, floods, wind (including tornados), earthquakes, lightning, and physical security breaches on the SONGS ISFSI that could affect the confinement boundary of the ISFSI remain unchanged from the effects that were considered under the existing PDEP. The NRC staff examined the assumptions used in the licensee's analyses and verified that the inputs were more conservative than those used in the approved PDEP, and therefore determined that the associated accident analyses are sufficient to conclude that any releases beyond the exclusion area boundary will be below the EPA PAG exposure levels.

Because of the very low risk of consequences to public health and safety resulting from the postulated accidents related to the SONGS ISFSI, no potential emergencies are classified as higher than an Alert, in accordance with the requirements of 10 CFR Part 50, Appendix E, Section IV.C.1, as exempted. Classification of emergencies as no higher than an Alert also maintains consistency with the regulations in 10 CFR 72.32(a)(3), "Classification of accidents."

Based on the NRC staff's review of the SONGS IOEP and associated EAL scheme, as described above, the NRC staff concludes that the planning standard of 10 CFR 50.47(b)(4), as exempted, pertaining to a standard emergency classification and action level scheme, is addressed in an acceptable manner in the SONGS IOEP, considering the permanently shutdown and defueled status of the facility, and the proposed transfer of all remaining spent fuel from the SONGS SFPs to the ISFSI by 2019.

3.3.2 *SONGS Emergency Response Organization Revision*

The existing SONGS PDEP provides for two (2) ERO augmented positions – a Duty ERO Coordinator and a Radiation Control Coordinator. The proposed SONGS IOEP would replace these positions with a Resource Manager. The Resource Manager will assist in assessing the event and coordinating required resources, including public information interface. The Resource Manager will be in contact with the Emergency Director within two hours of classification of an Unusual Event or an Alert. The Resource Manager does not need to physically report to SONGS to perform their responsibilities. In addition, SCE proposes that, for a declared emergency involving radiological consequences (E-HU1), a minimum of one person trained in radiological monitoring and assessment will report to the SONGS ISFSI within four hours of the emergency declaration. Supplemental personnel shall report at the discretion of the Emergency Director and/or Resource Manager.

In its evaluation of the proposed changes to the SONGS ERO, the NRC staff considered the accident analyses referenced in Section 3.3.1 above, related to the deletion of EALs, either partially or in their entirety, as indicated, as they relate to SFP operation. Specifically, the NRC staff considered the postulated accidents that could occur with all spent fuel moved into the SONGS ISFSI, which pose a very low risk to public health and safety. The staff notes that SCE also continues to commit to maintain the appropriate level of augmented response to an emergency, to include an event involving radiological consequences.

In the Statement of Considerations for the Final Rule for Emergency Planning Licensing Requirements for Independent Spent Fuel Storage Facilities and Monitored Retrievable Storage Facilities (MRS) (60 FR 32430; June 22, 1995), the Commission stated, in part:

For there to be a significant environmental impact resulting from an accident involving the dry storage of spent nuclear fuel, a significant amount of the radioactive material contained within a cask must escape its packaging and enter the biosphere. There are two primary factors that protect the public health and safety from this event. The first is the design requirements for the cask that are imposed by regulation.

These general design criteria place an upper bound on the energy a cask can absorb before the fuel is damaged. No credible dynamic events have been identified that could impart such significant amounts of energy to a storage cask after that cask is placed at the ISFSI.

Additionally, there is a second factor which does not rely upon the cask itself but considers the age of the spent fuel and the lack of dispersal mechanisms. There

exists no significant dispersal mechanism for the radioactive material contained within a storage cask.

...

Based on the design limitations, the majority of spent fuel is cooled greater than 5 years. At this age, spent fuel has a heat generation rate that is too low to cause significant particulate dispersal in the unlikely event of a cask confinement boundary failure.

Although the SONGS spent fuel analysis has not been able to identify any design-basis accident that would result in a failure of the confinement barrier for the dry storage casks or the irradiated fuel itself, the SONGS IOEP nonetheless requires augmentation of one person trained in radiological monitoring and assessment, who will report to the station within four hours of the emergency declaration for an event involving radiological consequences.

The proposed SONGS IOEP also provides that additional personnel resources may be directed to report to the plant to provide support, as needed, to assess radiological conditions, support maintenance and repair activities, develop and implement corrective action plans, and assist with recovery actions. The supplemental personnel are available from SONGS staff and SCE, and can also be requested from various contractors.

Based on the NRC staff's review of the SONGS IOEP, as described above, the NRC staff concludes that the planning standard of 10 CFR 50.47(b)(2), pertaining to timely augmentation of response capabilities, is addressed in an acceptable manner in the SONGS IOEP, considering the permanently shutdown and defueled status of the facility, and the proposed transfer of all remaining spent fuel from the SFPs to the ISFSI by 2019.

3.3.3 *Replacement of the "Shift Manager" Title with the "ISFSI Shift Supervisor" Title*

SCE revised Section 2.1, "On-Shift Positions," in the SONGS IOEP to reassign the following Emergency Director responsibilities from the Shift Manager to the ISFSI Shift Supervisor:

- Event classification and emergency declaration;
- Decision to notify offsite agencies;
- Authorization for the use of EPA-400 emergency exposure controls (emergency worker dose limits that exceed 10 CFR Part 20 occupational exposure limits);
- Management of available station resources;
- Initiation of assessment and mitigative / corrective actions;
- Initiation of onsite protective actions;
- Decision to call for offsite law enforcement, firefighting, or ambulance assistance;
- Augmentation of the emergency response organization as deemed necessary;
- Notification of SCE corporate officers and the SCE corporate communications department, and
- Notification of offsite agencies (State and local government agencies, Marine Corps Base Camp Pendleton and the NRC).

The NRC staff evaluation verified that the retitled position of ISFSI Shift Supervisor is on-shift at the SONGS site 24-hours a day / 7 days a week, and also serves as the senior management position during off-hours. This position assumes overall command and control of event response as the Emergency Director, and is responsible for monitoring conditions and approving all onsite activities. The SONGS IOEP clearly identifies non-delegable responsibilities, along with other designated tasks, for the ISFSI Shift Supervisor. The NRC staff considers this retitling activity to be an administrative change that will not impact the timing or performance of existing emergency response duties.

Based on the NRC staff's review of the SONGS IOEP, as described above, the NRC staff concludes that the requirements of 10 CFR Part 50, Appendix E, Section IV.A, as exempted, pertaining to responsibilities and duties of individuals assigned to the licensee's emergency organization, are addressed in a satisfactory manner, considering the permanently shutdown and defueled status of the facility, and the proposed transfer of all remaining spent fuel from the SONGS SFPs to the ISFSI by 2019.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments include changes to requirements with respect to installation or use of a facility component located within the protected area and changes to recordkeeping, reporting, or administrative procedures or requirements. 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 have been no public comment on such finding, which was published in the *Federal Register* on February 14, 2017 (82 FR 10601). Accordingly, the amendments meet the eligibility criteria for categorical exclusions set forth in 10 CFR 51.22(c)(9) and 10 CFR 51.22(c)(10)(ii). 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.

5.0 STATE CONSULTATION

On November 5, 2017, the NRC staff notified the California State officials, Mr. Ira Schneider, Senior Health Physicist, Medical, Academic and Pharmacy Licensing, Radiologic Health Branch, California Department of Public Health; and Mr. Robert Weisenmiller, California State Liaison Officer, Commissioner, California Energy Commission, regarding the proposed change to approve the SONGS IOEP and associated EAL scheme to reflect the transfer of all spent fuel into dry cask storage at the onsite ISFSI. The California State officials responded via email on November 21, 2017, with no comments.

6.0 CONCLUSION

Based on the its review of the proposed SONGS IOEP and associated EAL scheme, the NRC staff finds that the proposed changes would continue to meet the standards in 10 CFR 50.47(b) and the requirements in Appendix E of 10 CFR Part 50, as exempted. The staff finds continued reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the SONGS facility. In addition, the NRC staff concludes that the

SONGS IOEP will be consistent with the emergency planning requirements in 10 CFR Part 72 for an ISFSI not located on the site of an operating reactor. Therefore, the NRC staff concludes that the licensee's proposed changes to the SONGS IOEP and associated EAL scheme in its letter dated December 15, 2016, as supplemented by letter dated May 5, 2017, are acceptable.

The NRC staff 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 continues to be 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. Letter from the U.S. Nuclear Regulatory Commission, "Southern California Edison Company, et al, Docket No. 50-206, Issuance of Facility Operating License No. DPR-13," dated September 26, 1991 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13309A138).
2. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket No. 50-206, Request for Exemption from Full Funding Requirements of 10 CFR 50.75(e)(1)(ii), San Onofre Nuclear Generating Station, Unit 1," dated November 30, 1992 (ADAMS Accession No. ML13319B040).
3. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket No. 50-206, Certification of Permanently Defueled Status, San Onofre Nuclear Generating Station, Unit 1," dated March 8, 1993 (ADAMS Accession No. ML13319B055).
4. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket No. 50-206, Post Shutdown Decommissioning Activities Report, San Onofre Nuclear Generating Station, Unit 1," dated December 15, 1998 (ADAMS Accession No. ML13319B111).
5. Letter from the U.S. Nuclear Regulatory Commission to Southern California Edison, "Issuance of Amendment No. 155 for Facility Operating License No. DPR-13, San Onofre Nuclear Generating Station, Unit No. 1, Permanently Defueled Technical Specifications (TAC No. M86377)," dated December 28, 1993 (ADAMS Accession No. ML13319B059).
6. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket No. 50-206, Proposed Decommissioning Plan, San Onofre Nuclear Generating Station, Unit 1," dated November 3, 1994 (ADAMS Accession No. ML13319B073).
7. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket No. 50-206, Post Shutdown Decommissioning Activities Report, San Onofre Nuclear Generating Station, Unit 1," dated December 15, 1998 (ADAMS Accession No. ML13184A353).

8. Letter from Southern California Edison to the 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).
9. Letter from Southern California Edison to the 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).
10. Letter from Southern California Edison to the 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).
11. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket Nos. 50-361, 50-362, and 50-206, Amendment Applications 226, 273, and 258, Independent Spent Fuel Storage Installation (ISFSI) Only Emergency Plan (IOEP) and ISFSI-Only Emergency Action Level Scheme (IOEAL), San Onofre Nuclear Generating Station, Units 1, 2, and 3," dated December 15, 2016 (ADAMS Accession No. ML16355A015).
12. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket Nos. 50-361, 50-362, and 50-206, Response to a Request for Additional Information Regarding the License Amendment Request to Change the Emergency Plan and Emergency Action level Scheme to Reflect an ISFSI-Only Configuration, San Onofre Nuclear Generating Station, Units 1, 2, and 3," dated May 5, 2017 (ADAMS Accession No. ML17160A324).
13. Letter from the U.S. Nuclear Regulatory Commission to Southern California Edison, "San Onofre Nuclear Generating Station, Units 1, 2 and 3, and the Independent Spent Fuel Storage Installation – Exemptions From Certain Emergency Planning Requirements (TAC Nos. MF3835, MF3836, and MF3837)," dated June 4, 2015 (ADAMS Accession No. ML15082A143).
14. 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, dated November 1980 (ADAMS Accession No. ML040420012).
15. NSIR/DRP-ISG-2, "Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants," dated May 11, 2015 (ADAMS Accession No. ML14106A057).
16. NMSS/SFST-ISG-16, "Emergency Planning," dated June 14, 2000 (ADAMS Accession No. ML003724570).
17. NEI 99-01, "Development of Emergency Action Levels for Non-Passive Reactors," Revision 6, dated November 2012 (ADAMS Accession No. ML12326A805).

- 18 Letter from the U.S. Nuclear Regulatory Commission to NEI, "Technical Evaluation for the Endorsement of NEI 99-01, Revision 6," dated March 28, 2013 (ADAMS Accession No. ML12346A463).
- 19 Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket Nos. 50-206, 50-361, 50-362, and 72-041, Emergency Planning Exemption Request, San Onofre Nuclear Generating Station, Units 1, 2, and 3, and the Independent Spent Fuel Storage Installation," dated March 31, 2014 (ADAMS Accession No. ML14092A332).
- 20 Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket Nos. 50-206, 50-361, 50-362, and 72-041, Response to Request for Additional Information Regarding Emergency Planning Exemption Request, San Onofre Nuclear Generating Station, Units 1, 2, and 3, and the Independent Spent Fuel Storage Installation," dated September 9, 2014 (ADAMS Accession No. ML14258A003).
21. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket Nos. 50-206, 50-361, 50-362, and 72-041, Response to Request for Additional Information Regarding Emergency Planning Exemption Request, San Onofre Nuclear Generating Station, Units 1, 2, and 3, and the Independent Spent Fuel Storage Installation," dated October 2, 2014 (ADAMS Accession No. ML14280A265).
22. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket Nos. 50-206, 50-361, 50-362, and 72-041, Response to Request for Additional Information Regarding Emergency Planning Exemption Request, San Onofre Nuclear Generating Station, Units 1, 2, and 3, and the Independent Spent Fuel Storage Installation," dated October 7, 2014 (ADAMS Accession No. ML14287A228).
23. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket Nos. 50-206, 50-361, 50-362, and 72-041, Response to Requests for Clarification of October 6, 2014, RAI Responses Concerning Emergency Planning Exemption Request, San Onofre Nuclear Generating Station, Units 1, 2, and 3, and the Independent Spent Fuel Storage Installation," dated October 27, 2014 (ADAMS Accession No. ML14303A257).
24. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket Nos. 50-206, 50-361, 50-362, and 72-041, Response to Request for Additional Information Regarding Emergency Planning Exemption Request, San Onofre Nuclear Generating Station, Units 1, 2, and 3, and the Independent Spent Fuel Storage Installation," dated November 3, 2014 (ADAMS Accession No. ML14309A195).
- 25 Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket Nos. 50-206, 50-361, 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, San Onofre Nuclear Generating Station, Units 1, 2, and 3, and the Independent Spent Fuel Storage Installation," dated December 15, 2014 (ADAMS Accession No. ML14351A078).

26. Letter from the U.S. Nuclear Regulatory Commission to Southern California Edison, "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 Action Level Scheme (TAC Nos. MF3838, MF3839, and MF3840)," dated June 5, 2015 (ADAMS Accession No. ML15105A349).
27. Letter from the U.S. Nuclear Regulatory Commission to Southern California Edison, "San Onofre Nuclear Generating Station, Units 1, 2, and 3, and Independent Spent Fuel Storage Installation – Issuance of Amendments Re: Changes to the Emergency Plan (TAC Nos. MF3841, MF3842, and MF3843)," dated June 5, 2015 (ADAMS Accession No. ML 15126A461).
28. Letter from Southern California Edison to the U.S. Nuclear Regulatory Commission, "Docket Nos. 50-206, 50-361, 50-362, and 72-41, Revisions 0 and 1 to the Permanently Defueled Emergency Plan and Revisions to the Emergency Plan Implementing Procedures, San Onofre Nuclear Generating Station, Units 1, 2, and 3, and the Independent Spent Fuel Storage Installation," dated July 8, 2015 (ADAMS Accession No. ML15191A391).
29. U.S. Environmental Protection Agency PAG Manual, "Protective Action Guides and Planning Guidance for Radiological Incidents," dated January 2017 (ADAMS Accession No. ML17044A073).

Principal Contributor: Rick Kinard, NSIR

Dated: November 30, 2017