



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

August 10, 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 – REVIEW OF
CHANGES TO THE DECOMMISSIONING QUALITY ASSURANCE PROGRAM
(TAC NOS. MF5215, MF5216, AND MF5217)**

Dear Mr. Palmisano:

The U.S. Nuclear Regulatory Commission (NRC) has completed its review of the proposed changes to the Southern California Edison (SCE) Decommissioning Quality Assurance Program (DQAP) in response to your application dated November 13, 2014, as supplemented by letter dated April 20, 2015. The SCE DQAP is associated with Facility Operating Licenses DPR-13, NPF-10, and NPF-15, for San Onofre Nuclear Generating Station (SONGS), Units 1, 2, and 3, respectively, and Docket No. 72-041 for the Independent Spent Fuel Storage Installation.

The proposed DQAP reflects changes and simplifications based on the SONGS site's decommissioning status. The changes include the scope of structures, systems and components due to the decommissioning status, the relocation of the implementing details from the existing quality assurance program (QAP) to the appropriate implementing procedures, and changes in organizational structure. The changes, which are considered to be reductions in commitments, were submitted for NRC review and approval in accordance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) paragraph 50.54(a)(4).

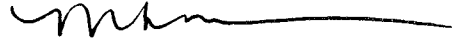
The NRC staff has completed its review of your request and has determined that the Quality Assurance Program, as described in the SCE DQAP, meets the criteria of Appendix B to 10 CFR Part 50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," and is, therefore, acceptable.

T. Palmisano

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

Sincerely,



Meena K. Khanna, Chief
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

Enclosure:
Safety Evaluation

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

DECOMMISSIONING QUALITY ASSURANCE PROGRAM CHANGES

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 72-041

1.0 INTRODUCTION

By letter dated November 13, 2014 (Reference 1), Southern California Edison (SCE) submitted for the U.S. Nuclear Regulatory Commission (NRC) staff's review, the Decommissioning Quality Assurance Program (DQAP), in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) paragraph 50.54(a)(4). The NRC requested additional information by letter dated March 27, 2015 (Reference 2). SCE submitted its response to the staff's request by letter dated April 20, 2015 (Reference 3).

The DQAP provides an overview of the manner in which quality is to be achieved and presents SCE's overall philosophy regarding quality assurance associated with the San Onofre Nuclear Generating Station (SONGS), Units 1, 2 and 3, and the Independent Spent Fuel Storage Installation during the decommissioning phase of the plant life. The DQAP satisfies the requirements of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," 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," Subpart G, "Quality Assurance," and 10 CFR Part 71, "Packaging and Transportation of Radioactive Material," Subpart H, "Quality Assurance."

2.0 REGULATORY EVALUATION

The NRC's regulatory requirements related to Quality Assurance (QA) programs are set forth in Appendix B to 10 CFR Part 50 (Appendix B), 10 CFR 50.34(b)(6)(ii), and 10 CFR 50.54(a). In addition, the Commission's regulatory requirements related to QA programs for the independent storage of spent nuclear fuel and packaging and transportation of radioactive material are addressed in 10 CFR Part 71, Subpart H, and 10 CFR Part 72, Subpart G.

Appendix B establishes the requirements for the design, fabrication, construction, and testing of structures, systems, and components (SSCs) for the facility. The pertinent requirements of Appendix B apply to all activities affecting the safety-related functions of those SSCs and

Enclosure

include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying SSCs.

The regulations in 10 CFR 50.34, "Content of applications; technical information," require that every applicant for an operating license include information in its Final Safety Analysis Report on the managerial and administrative controls to be used to ensure safe operation. The information on the controls shall also include a discussion on how the applicable requirements of Appendix B will be satisfied.

The regulations in 10 CFR 50.54, "Conditions of licenses," require each power plant subject to the requirements of Appendix B to implement a QA program and the regulations in 10 CFR 50.54(a)(4) require licensees to submit to the NRC, changes to their QA Program that reduce commitments.

The regulations in 10 CFR Part 71, Subpart H, establish the quality assurance requirements applying to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, and modification of components of packaging that are important to safety.

The regulations in 10 CFR Part 72, Subpart G, establish the quality assurance requirements that apply to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, modification of SSCs, and decommissioning components that are important to safety.

3.0 TECHNICAL EVALUATION

The request for review and approval of the SONGS DQAP, which includes changes that are considered to be reductions in commitments, was submitted by the November 13, 2014, letter (Reference 1), in accordance with the provisions of 10 CFR 50.54(a)(4). The letter included Revision 0 to the DQAP (provided in Enclosure 2, thereto).

In evaluating the adequacy of the DQAP, the NRC staff used the guidance contained in NUREG-0800, "Standard Review Plan [SRP] for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light Water Reactor] Edition," Section 17.5, "Quality Assurance Program Description - Design Certification, Early Site Permit and New License Applicants," dated March 2007 (Reference 4), hereafter referred to as SRP Section 17.5, which provides acceptance criteria for quality assurance program descriptions.

3.1 Organization

The SONGS DQAP describes and defines the responsibility and authority for planning, establishing, and implementing an effective QA program. The SONGS DQAP provides a description of an organizational structure, functional responsibilities, levels of authority, and interfaces for establishing, executing, and verifying DQAP implementation. The SONGS DQAP establishes independence between the organization responsible for checking a function and the organization that performs the function. The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5 (Reference 4), paragraph II.A, for the decommissioning phase of plant life.

3.2 Quality Assurance Program

The SONGS DQAP provides controls over activities affecting quality to an extent consistent with its importance to ensure safety and compliance. The SONGS DQAP applies to regulatory programs and SSCs designated as important-to-safety, which are listed in the engineering Q-List. The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.B, for the scope of activities relative to decommissioning and spent fuel.

3.3 Design Control

The SONGS DQAP includes design control provisions to control design inputs, processes, outputs, changes, interfaces, records, and organizational interfaces. The design control provisions include requirements for verifying the acceptability of design activities and documents, consistent with their effects on safety for SSCs that have important-to-safety functions. The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.C, for the scope of activities relative to decommissioning and spent fuel.

3.4 Procurement Document Control

The SONGS DQAP establishes controls to assure that purchased items (components, spares, and replacement parts necessary for plant decommissioning, fuel handling, maintenance and modifications) and services are subject to quality and technical requirements at least equivalent to those specified for original equipment or specified by properly reviewed and approved revisions to assure the items are suitable for the intended service, and are of acceptable quality, consistent with their effects on safety. The NRC staff determined that the SONGS DQAP provisions follow the applicable guidance in SRP Section 17.5, paragraph II.D, for the scope of activities relative to decommissioning and spent fuel.

3.5 Instructions, Procedures and Drawings

The SONGS DQAP establishes measures to assure that quality activities are prescribed and performed in accordance with documented instructions, procedures, and drawings. Documented and approved instructions, procedures and drawings are required to accomplish important-to-safety work. The NRC staff determined that the SONGS DQAP follows the applicable guidance in SRP Section 17.5, paragraph II.E, for the scope of activities relative to decommissioning and spent fuel.

3.6 Document Control

The SONGS DQAP establishes provisions to specify the format and content, and control the development, review, approval, issue, use and revision of documents that prescribe activities affecting quality to assure that the correct documents are being employed. The NRC staff determined that the SONGS DQAP follows the applicable guidance in SRP Section 17.5, paragraph II.F, for the scope of activities relative to decommissioning and spent fuel.

3.7 Control of Purchased Material, Equipment, and Services

The SONGS DQAP establishes the necessary measures and governing procedures to control the procurement of items and services to ensure conformance with specified requirements. The program provides measures to evaluate prospective suppliers, so that only qualified suppliers are selected. In addition, the program requires that suppliers be periodically audited and evaluated to ensure that qualified suppliers continue to provide acceptable products and services.

The SONGS DQAP provides for acceptance actions, such as source verification, receipt inspection, pre- and post-installation tests, and reviews of documentation, such as certificates of conformance, to ensure that procurement, inspection, and test requirements have been satisfied before relying on the item to perform its intended safety function. Purchased items (such as components, spares, and replacement parts necessary for items important to safety) and services are subject to quality and technical requirements at least equivalent to those specified for original equipment or by properly reviewed and approved revisions to ensure that the items are suitable for the intended service and are of acceptable quality, consistent with their effects on safety.

The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.G, for the scope of activities relative to decommissioning and spent fuel.

3.8 Identification and Control of Materials, Parts, and Components

The SONGS DQAP establishes the necessary measures for the identification and control of items such as materials, including consumables and items with limited shelf life, parts, components, and partially fabricated subassemblies. The identification of items is maintained throughout fabrication, erection, installation, and use, so that the item can be traced to its documentation, consistent with the item's effect on safety. The NRC staff determined that the SONGS DQAP follows the applicable guidance in SRP Section 17.5, paragraph II.H, for the scope of activities relative to decommissioning and spent fuel.

3.9 Control of Special Processes

The SONGS DQAP establishes provisions to assure that special processes that require interim process controls to assure quality, such as welding, heat treating, chemical cleaning, and nondestructive examination, are controlled and accomplished by qualified personnel using approved written procedures in accordance with applicable codes, standards, specifications, criteria and other special requirements. The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.I, for the scope of activities relative to decommissioning and spent fuel.

3.10 Inspection

The SONGS DQAP establishes measures for inspection of important-to-safety activities. The NRC staff determined that the measures addressed in the SONGS DQAP meet the applicable measures addressed in SRP Section 17.5, paragraph II.J, for the scope of activities relative to decommissioning and spent fuel.

3.11 Test Control

The SONGS DQAP establishes measures for a test program to demonstrate that important-to-safety SSCs will perform satisfactorily in service. The SONGS DQAP establishes the necessary measures and governing provisions to demonstrate that items subject to the provisions will perform satisfactorily in service. The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.K, for the scope of activities relative to decommissioning and spent fuel.

3.12 Control of Measuring and Test Equipment

The SONGS DQAP establishes provisions to control the calibration, maintenance, and use of measuring and test equipment, including installed plant instrumentation, that provide information important-to-safety. The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.L, for the scope of activities relative to decommissioning and spent fuel.

3.13 Handling, Storage, and Shipping

The SONGS DQAP establishes the necessary measures to control the handling, storage, packaging, shipping, cleaning, and preservation of items to prevent damage or deterioration. The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.M, for the scope of activities relative to decommissioning and spent fuel.

3.14 Inspection, Test, and Operating Status

The SONGS DQAP establishes and implements measures to identify the inspection, test and operating status of items and components important-to-safety in order to prevent the unintentional bypass of required inspections or tests and avoid inadvertent operation. The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.N, for the scope of activities relative to decommissioning and spent fuel.

3.15 Nonconforming Materials, Parts, or Components

The SONGS DQAP establishes the necessary measures to control items, including services that do not conform to specified requirements to prevent inadvertent installation or use. Non-conformances are evaluated for their impact on operability of important-to-safety SSCs to ensure that the final condition does not adversely affect safety, operation, or maintenance of the item or service. The results of evaluations of conditions adverse to quality are analyzed, documented, and reported in accordance with applicable procedures. The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.O, for the scope of activities relative to decommissioning and spent fuel.

3.16 Corrective Actions

The SONGS DQAP establishes the necessary measures to promptly identify, control, document, classify, and correct conditions adverse to quality. The QAPD requires personnel to identify known conditions adverse to quality. Reports of conditions adverse to quality are analyzed to identify trends. Significant conditions adverse to quality are documented and reported to responsible management. The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.P, for the scope of activities relative to decommissioning and spent fuel.

3.17 Quality Assurance Records

The SONGS DQAP establishes the necessary measures to ensure that sufficient records of items and activities affecting quality are generated, identified, retained, maintained, and retrievable. Concerning the use of electronic records storage and retrieval systems, the DQAP complies with the NRC guidance given in Regulatory Issue Summary (RIS) 2000-18, "Guidance on Managing Quality Assurance Records in Electronic Media," dated October 23, 2000 (Reference 5). The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.Q, for the scope of activities relative to decommissioning and spent fuel.

3.18 Audits

The SONGS DQAP establishes the necessary measures to implement audits to verify that activities covered by the DQAP are performed in conformance with documented requirements. The audit program is reviewed for effectiveness as part of the overall audit process. The SONGS DQAP provides for the conduct of periodic internal and external audits. Internal audits are conducted to determine that the program and procedures being audited comply with the DQAP. Internal audits are performed with a frequency commensurate with safety significance and in such a manner as to ensure that an audit of all applicable QA program elements is completed for each functional area within a period of 2 years. External audits determine the adequacy of a supplier's or contractor's QA program. SCE ensures that audits are documented and audit results are reviewed. SCE ensures that it responds to all audit findings and initiates appropriate corrective actions. In addition, where corrective actions are indicated, SCE documents followup of applicable areas through inspections, review, re-audits, or other appropriate means to verify implementation of assigned corrective actions.

The NRC staff determined that the SONGS DQAP follows the applicable guidance of SRP Section 17.5, paragraph II.R, for the scope of activities relative to decommissioning and spent fuel.

3.19 Regulatory Commitments

In Appendix B of Revision 0 of the SONGS DQAP (Enclosure 2 of Reference 3), the licensee commits to comply with the following regulatory guidance:

- 10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants;"

- 10 CFR Part 71, Subpart H, "Quality Assurance" for Packaging and Transportation of Radioactive Material;
- 10 CFR Part 72, Subpart G, "Quality Assurance" for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor Related Greater than Class C Waste;
- Regulatory Guide (RG) 7.10, "Establishing Quality Assurance Programs for Packaging Used in the Transportation of Radioactive Material," Revision 2, March 2005, with the exception to the annual audit frequency. SONGS is on a 24-month audit frequency in accordance with implementing plant procedures (Reference 6);
- NUREG/CR-6407, "Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety," February 1996 (Reference 7);
- RG 1.191, "Fire Protection Program for Nuclear Power Plants During Decommissioning and Permanent Shutdown," May 2001 (Reference 8); and
- NRC Regulatory Issue Summary (RIS) 2000-18, "Guidance on Managing Quality Assurance Records in Electronic Media," October 23, 2000.

4.0 CONCLUSION

The NRC staff used the acceptance criteria of SRP Section 17.5 as the basis for evaluating the acceptability of the SONGS DQAP in conformance with the applicable portions of Appendix B to 10 CFR Part 50. The program description adequately describes the provisions to meet the requirements of Appendix B. The NRC staff concludes that the proposed DQAP follows the NRC guidance contained within, conforms to the format of NUREG-0800, Section 17.5, and complies with Appendix B to 10 CFR Part 50 requirements for the QA program and is, therefore, acceptable. The staff may also conduct a quality assurance implementation inspection at SONGS to verify that the DQAP is being implemented appropriately.

5.0 REFERENCES

1. Palmisano, Thomas, J., Southern California Edison, letter to the U.S. Nuclear Regulatory Commission, "Docket No. 50-206, 50-361, 50-362, and 72-041, Request for Approval of Decommissioning Quality Assurance Program for San Onofre Nuclear Generating Station, Units 1, 2, and 3 and Independent Spent Fuel Storage Facility," dated November 13, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14322A157).
2. Wengert, Thomas, 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 – Request for Additional Information Re: Decommissioning Quality Assurance Program Review (TAC Nos. MF5215, MF5216, MF5217), dated March 27, 2015 (ADAMS Accession No. ML15083A455).

3. Palmisano, Thomas, J., Southern California Edison, letter to the U.S. Nuclear Regulatory Commission, "Docket No. 50-206, 50-361, 50-362, and 72-041, Response to a Request for Additional Information Regarding Decommissioning Quality Assurance Plan San Onofre Nuclear Generating Station, Units 1, 2, and 3 and Independent Spent Fuel Storage Facility," dated April 20, 2015 (ADAMS Accession No. ML15112A079) and "Enclosure 2 Decommissioning Quality Assurance Program" (ADAMS Accession No. ML15112A080).
4. U.S. Nuclear Regulatory Commission, NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light Water Reactor] Edition," Section 17.5, "Quality Assurance Program Description" dated March 2007 (ADAMS Accession No. ML063190019).
5. U.S. Nuclear Regulatory Commission, Regulatory Issue Summary (RIS) 2000-18, "Guidance on Managing Quality Assurance Records in Electronic Media," dated October 23, 2000 (ADAMS Accession No. ML003739359).
6. U.S. Nuclear Regulatory Commission, Regulatory Guide (RG) 7.10, "Establishing Quality Assurance Programs for Packaging Used in the Transportation of Radioactive Material," Revision 2, March 2005 (ADAMS Accession No. ML050540330).
7. Idaho National Engineering Laboratory, NUREG/CR-6407, "Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety," February 1996 (ADAMS Accession No. ML15127A114).
8. U.S. Nuclear Regulatory Commission, Regulatory Guide 7.10, "Establishing Quality Assurance Programs for Packaging Used in the Transportation of Radioactive Material," Revision 2, March 2005 (ADAMS Accession No. ML050540330).

Principal Contributor: Andrea Keim

Date: August 10, 2015.

T. Palmisano

-2-

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

Sincerely,

/RA/

Meena K. Khanna, Chief
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

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ADAMS Accession No. ML15191A461

*** via memorandum**

****via e-mail**

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