

December 26, 2017

Mr. Randall L. Kurtz
Quality Assurance Manager
Sargent & Lundy, LLC
55 East Monroe Street
Chicago, IL 60603-5780

SUBJECT: FINAL SAFETY EVALUATION FOR SARGENT & LUNDY, LLC NUCLEAR
QUALITY ASSURANCE PROGRAM TOPICAL REPORT SL-TR-1, REVISION 24

Dear Mr. Kurtz:

By letter dated May 22, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17158B242), Sargent & Lundy, LLC (S&L) submitted the updated, S&L "Nuclear Quality Assurance Program," Topical Report (TR) SL-TR-1, Revision 24 (hereafter referred to as the QATR), to the U.S. Nuclear Regulatory Commission (NRC) staff. By letter dated November 21, 2017 (ADAMS Accession No. ML17290B257), an NRC draft safety evaluation (SE) regarding our approval of TR SL-TR 1, Revision 24, was provided for your review and comment. By e-mail dated November 28, 2017 (ADAMS Accession No. ML17347A065), S&L responded with no comments on the draft SE.

The NRC staff concludes that S&L's SL-TR-1, Revision 24, submittal satisfies the requirements for a quality assurance program as established by Appendix B to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50. The changes to the quality assurance program are consistent with 10 CFR 50.4(b)(7)(ii), and are therefore acceptable for referencing in licensing applications.

Our acceptance applies only to material provided in the subject TR. We do not intend to repeat our review of the acceptable material described in the TR. When the TR appears as a reference in license applications, our review will ensure that the material presented applies to the specific plant involved. License amendment requests that deviate from this TR will be subject to a plant-specific review in accordance with applicable review standards.

In accordance with the guidance provided on the NRC website, we request that S&L publish the accepted version of this TR within three months of receipt of this letter. The accepted version shall incorporate this letter and the enclosed final SE after the title page. Also, they must contain historical review information, including NRC requests for additional information and your responses. The approved versions shall include an "-A" (designating approved) following the TR identification symbol.

As an alternative to including the RAIs and RAI responses behind the title page, if changes to the TR were provided to the NRC staff to support the resolution of RAI responses, and if the NRC staff reviewed and approved those changes as described in the RAI responses, there are two ways that the accepted version can capture the RAIs:

1. The RAIs and RAI responses can be included as an Appendix to the accepted version.
2. The RAIs and RAI responses can be captured in the form of a table (inserted after the final SE) which summarizes the changes as shown in the approved version of the TR. The table should reference the specific RAIs and RAI responses which resulted in any changes, as shown in the accepted version of the TR. If future changes to the NRC's regulatory requirements affect the acceptability of this TR, S&L will be expected to revise the TR appropriately or justify its continued applicability for subsequent referencing. Licensees referencing this TR would be expected to justify its continued applicability or evaluate their plant using the revised TR.

If you have any questions, please contact Leslie Perkins at 301-415-2375.

Sincerely,

/RA/

Dennis C. Morey, Chief
Licensing Processes Branch
Division of Licensing Projects
Office of Nuclear Reactor Regulation

Docket No. 9990507

Enclosure:
Final SE

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QUALITY ASSURANCE PROGRAM TOPICAL REPORT SL-TR-1, REVISION 24
DATED: DECEMBER 26, 2017

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NRR-106

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U. S. NUCLEAR REGULATORY COMMISSION
FINAL SAFETY EVALUATION FOR SARGENT & LUNDY, LLC
NUCLEAR QUALITY ASSURANCE PROGRAM TOPICAL REPORT
SL-TR-1, REVISION 24

1.0 INTRODUCTION

By letter dated May 22, 2017 (Ref. 1), as supplemented by letter dated September 12, 2017 (Ref. 2), Sargent & Lundy, LLC (S&L) submitted the updated, "Nuclear Quality Assurance Program," Topical Report (TR) SL-TR-1A, Revision 24 (hereafter referred to as the QATR) (Ref. 1) to the U.S. Nuclear Regulatory Commission (NRC) staff.

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50.4(b)(7)(ii), changes to an NRC-accepted QATR from non-licensees must be submitted to NRC for approval. SL-TR-1A, Revision 24, addresses a number of changes including adding and updating commitments of Regulatory Guides (RGs), change in the responsibilities of the quality assurance (QA) Manager, and an update on the process of how to control electronic media under the quality assurance records program.

2.0 REGULATORY EVALUATION

The NRC's regulatory requirements related to QA programs are set forth in Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, and 10 CFR 50.4(b)(7), Quality Assurance related submission, Item (ii). The regulation at 10 CFR 50.4(b)(7)(ii) states, in part, "a change to an NRC-accepted quality assurance topical report from non-licensees (i.e., architect/engineers, NSSS suppliers, fuel suppliers, contractors, etc.) must be transmitted to the NRC Document Control Desk."

The NRC's regulatory requirements for licensees related to QA programs are set forth in Appendix B to 10 CFR Part 50, and 10 CFR 50.54(a). Appendix B to 10 CFR Part 50 establishes QA requirements for the design, construction, and operation of structures, systems, and components (SSCs) of the facility. The pertinent requirements of Appendix B to 10 CFR Part 50 are contractually imposed on non-licensees and apply to all activities affecting the safety-related functions of those SSCs and include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, repairing, refueling, and modifying.

3.0 EVALUATION

SL-TR-1A, Revision 24, addresses a number of changes including adding and updating commitments of RGs, change in the responsibilities of the QA Manager, and an update on the electronic media backups.

Enclosure

While reviewing the changes in SL-TR-1A, Revision 24, the NRC staff found that additional information was needed in Section 00.00, "Introduction," therefore, the NRC staff decided to review the entire QATR.

The format and content of the S&L QATR for design and construction was previously evaluated in accordance with NUREG-0800, Standard Review Plan (SRP) Section 17.3, "Quality Assurance Program Description" (Ref. 3).

The acceptability of the level of detail in SL-TR-1A, Revision 24, is determined, in part, by its adequacy in addressing the acceptance criteria of SRP Section 17.3.

3.1 Format and Content of the QATR

The format used for the following evaluation follows the sequence of the 18 criteria of Appendix B to 10 CFR Part 50 and the acceptance criteria of SRP Section 17.3.

3.1.0 *Introduction*

SL-TR-1A, Revision 24, Section 00.00, "Introduction," contained the following revisions:

1. (Chapter 00.00, Page 00-6) The commitment to RG 1.29, "Seismic Design Classification for Nuclear Power Plants," is updated to Revision 5 (July 2016). This change recognizes the updated version of RG 1.29, which describes a method that the NRC staff considers acceptable for use in identifying and classifying those features of light water-reactor nuclear power plants that must be designed to withstand the effects of the safe shutdown earthquake.
2. (Chapter 00.00, Page 00-6) The commitment to RG 1.127, "Criteria and Design Features for Inspection of Water Control Structures Associated with Nuclear Power Plants," is updated to Revision 2 (February 2016). This change recognizes the updated version of RG 1.127, which describes a method that the NRC staff considers acceptable for designing water control structures (e.g., dams, slopes, canals, reservoirs, and associated conveyance facilities).
3. (Chapter 00.00, Page 00-6) A commitment is added to Revision 0 (January 2017) of RG 1.231, "Acceptance of Commercial-Grade Design and Analysis Computer Programs Used in Safety-Related Applications for Nuclear Power Plants." This change recognizes the initial issuance of RG 1.231, which describes a method that the NRC staff considers acceptable in meeting regulatory requirements for acceptance and dedication of commercial-grade design and analysis computer programs used in the safety-related applications of nuclear power plants.

The NRC staff reviewed the changes to SL-TR-1A, Revision 24, Section 00.00. The NRC staff determined that with these changes S&L is committing to the latest guidance provided by the NRC.

In addition to the changes, the NRC staff reviewed SL-TR-1A, Revision 24, Section 00.00 and issued RAI 1-1 (Ref. 4). In RAI 1-1, the NRC staff was requesting S&L to clarify why it is applying the requirements of 10 CFR 50.54(a)(3) to SL-TR-1A, Revision 24 when this

requirement doesn't apply to it. In its response to RAI 1-1 (Ref. 2), S&L removed the reference to 10 CFR 50.54(a)(3) and associated wording. S&L submitted the TR revisions in accordance with 10 CFR 50.4(b)(7)(ii). Therefore, the staff determined that RAI 1-1 is closed and resolved.

The NRC staff determined that the revision of SL-TR-1A, Revision 24, Section 00.00, doesn't reduce the commitments in the QATR as previously accepted by the NRC. Therefore, the NRC staff finds the proposed changes acceptable.

3.1.1 *Organization*

SL-TR-1A, Revision 24, Section 01.00, "Organization," contained the following revision:

1. (Chapter 01.01, Pages 01-2, 01-6, and 01-8) A change in commitment was made to identify that the QA Manager is now responsible for "reviewing software verification and validation documentation." This change is made in accordance with Section 17.3.A.2.a of NUREG-0800. This review is performed after the responsible design organization has completed and documented the testing to demonstrate proper performance. The technical preparation, review, and approval of the testing documentation continues to be the responsibility of the responsible design organization.

The NRC staff issued RAI 1-2 (Ref. 4), requesting S&L to clarify the function of the QA Manager with respect to the verification and validation of software documentation. In its response to RAI 1-2 (Ref. 2), S&L added an additional statement and clarified that the QA Managers role is that of an overview of software verification and validation documentation. This overview is completed after the responsible organization completed and documented the testing. This new information meets the requirements of 10 CFR 50.34(f)(3)(iii)(H), which states that the QA role in design and analysis is limited to review and approval of design documents by individuals knowledgeable and qualified in QA to ensure the documents contain the necessary QA requirements. Therefore, the NRC staff determined that RAI 1-2 is closed and resolved.

3.1.2 *Quality Assurance Program*

In SL-TR-1A, Section 02.00, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to administrative controls.

3.1.3 *Design Control*

In SL-TR-1A, Section 03.00, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to design control.

3.1.4 *Procurement Document Control*

In SL-TR-1A, Section 04.00, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to procurement document control.

3.1.5 *Instructions, Procedures, and Drawings*

In SL-TR-1A, Section 05.00, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to instructions, procedures, and drawings.

3.1.6 *Document Control*

In SL-TR-1A, Section 06.00, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to document control.

3.1.7 *Control of Purchased Material, Equipment, and Services*

In SL-TR-1A, Section 07.00, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to control of purchased material, equipment, and services.

3.1.8 *Identification and Control of Materials, Parts, and Components*

In SL-TR-1A, Section 8.0, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to identification and control of materials, parts, and components.

3.1.9 *Control of Special Processes*

In SL-TR-1A, Section 9.0, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to control of special processes.

3.1.10 *Inspection*

In SL-TR-1A, Section 10.0, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to control of inspection.

3.1.11 *Test Control*

In SL-TR-1A, Section 11.0, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to test control.

3.1.12 *Control of Measuring and Test Equipment*

In SL-TR-1A, Section 12.00, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to control of measuring and test equipment.

3.1.13 *Handling, Storage, and Shipping*

In SL-TR-1A, Section 13.0, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to handling, storage, and shipping controls.

3.1.14 *Inspection, Test, and Operating Status*

In SL-TR-1A, Section 14.0, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to inspection, test, and operating status.

3.1.15 *Nonconforming Materials, Parts, or Components*

In SL-TR-1A, Section 15.0, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to nonconforming material, parts, or components.

3.1.16 *Corrective Action*

In SL-TR-1A, Section 16.0, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to corrective action.

3.1.17 *Quality Assurance Records*

SLTR-1A, Revision 24, Section 17.00, "Quality Assurance Records," contained the following revision:

1. (Paragraph 17.09, Pages 17-3 and 17-4) A change was made to allow magnetic disk or tape cartridge backups of electronic media. This change is to allow flexibility in the media used for backups by Sargent & Lundy. An additional change was made in this section to allow storage at a records storage facility or "in separate remote locations." This change is in accordance with ASME NQA-1-1994 Supplement 17S-1 4.4.4 "Dual Storage Facilities."

The NRC staff has reviewed the revision to SL-TR-1A, Section 17.00. In establishing provisions for records, S&L commits to compliance with Standard NQA-1-1994, Basic Requirement 17 and Supplement 17S-1. The NRC staff determined that these changes have no impact on current commitments in the QATR as previously accepted by the NRC. The NRC staff concludes that there is reasonable assurance that the requirements of Criterion XVII of Appendix B continue to be met. Therefore, the NRC staff finds the proposed changes acceptable.

3.1.18 *Audits*

In SL-TR-1A, Section 18.0, Revision 24, S&L made no changes to the QATR previously accepted by the NRC related to audits.

4.0 **CONCLUSION**

The NRC staff has completed its review of S&L's QATR, Revision 24. The program description adequately describes how the requirements of Appendix B will be implemented. Based on its evaluation of the SL-TR-1A QATR, Revision 24 submittal, the NRC staff concludes that the QA program described in the S&L QATR satisfies the Commission's requirements for QA programs as established by Appendix B to 10 CFR Part 50 and 10 CFR 50.4.

5.0 **REFERENCES**

1. Sargent & Lundy Nuclear Quality Assurance Program Topical Report SL-TR-1, Revision 24, May 2017 (ADAMS Accession No. ML17158B239).

2. Response to NRC's Requests for Additional Information and updated Sargent & Lundy Nuclear Quality Assurance Program Topical Report SL-TR-1, Revision 24, September 2017 (ADAMS Accession No. ML17278A307).
3. Standard Review Plan (SRP) Section 17.3, "Quality Assurance Program Description," August 1990 (ADAMS Accession No. ML052350376).
4. "Request for Additional Information Re: Sargent & Lundy, LLC Nuclear Quality Assurance Program Topical Report SL-TR-1, Revision 24 (CAC No. MF9811)," September 2017 (ADAMS Accession No. ML17216A143).

Principal Contributors: Jonathan Ortega-Luciano
Ilka T. Berrios

Date: December 26, 2017