

February 6, 2007

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 (S&L) TOPICAL REPORT (TR) SL-TR-1A, REVISION 18 (TAC NO. MC9605)

Dear Mr. Kurtz:

By letter dated December 30, 2005, S&L submitted SL-TR-1A, Revision 18, "Nuclear Quality Assurance Program," to the Nuclear Regulatory Commission (NRC) staff. By letter dated December 7, 2006, an NRC draft safety evaluation (SE) regarding our approval of SL-TR-1A, Revision 18 was provided for your review and comments. By letter dated January 5, 2007, S&L commented on the draft SE. The NRC staff's disposition of S&L's comments on the draft SE are discussed in the attachment to the enclosed final SE.

The NRC staff has found that SL-TR-1A, Revision 18 is acceptable for referencing in licensing applications to the extent specified and under the limitations delineated in the TR and in the enclosed final SE. The final SE defines the basis for our acceptance of the TR.

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 accepted proprietary and non-proprietary versions of this TR within three months of receipt of this letter. The accepted versions 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 accepted versions shall include an "-A" (designating accepted) following the TR identification symbol.

R. Kurtz

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If future changes to the NRC's regulatory requirements affect the acceptability of this TR, S&L and/or licensees referencing it will be expected to revise the TR appropriately, or justify its continued applicability for subsequent referencing.

Sincerely,

**/RA/**

Ho K. Nieh, Deputy Director  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

Enclosure: Final SE

R. Kurtz

- 2 -

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Sincerely,

**/RA/**

Ho K. Nieh, Deputy Director  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

Enclosure: Final SE

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**ADAMS ACCESSION NO.: ML070220504**

**\*No major changes to SE input.**

**NRR-043**

OFFICE	PSPB/PM	PSPB/LA	Tech Branch*	PSPB/BC	DPR/DD
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DATE	1/22/07	1/23/07	1/25/07	1/26/07	2/6/07

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FINAL SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

TOPICAL REPORT SL-TR-1A, REVISION 18

"NUCLEAR QUALITY ASSURANCE PROGRAM"

SARGENT & LUNDY LLC (S&L)

1.0 BACKGROUND

By letter dated December 30, 2005 (Reference 1), as supplemented by letter dated September 22, 2006 (Reference 2), S&L transmitted the proposed Revision 18 to the S&L, "Nuclear Quality Assurance Program" Topical Report (TR), SL-TR-1A, to the Nuclear Regulatory Commission (NRC) staff. The NRC staff reviewed eight proposed changes in SL-TR-1A and identified three requests for additional information (RAIs). By letter dated May 4, 2006, S&L responded to the RAIs. The regulatory and technical evaluation of SL-TR-1A, Revision 18, the response to NRC RAIs, and conclusions are presented below.

2.0 REGULATORY EVALUATION

The NRC staff verified that SL-TR-1A, Revision 18, complies with the following regulations, regulatory guides, portions of NUREG-0800, Standard Review Plan (SRP) and industry standards:

- Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54(a)(1), quality assurance program description
- Appendix B to 10 CFR Part 50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants."
- 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants."
- Regulatory Guide (RG) 1.8, "Qualification and Training of Personnel for Nuclear Power Plants," Revision 3, dated May 2000.
- RG 1.28, "Quality Assurance Program Requirements (Design and Construction)," Revision 3, dated August 1985.
- NUREG-0800, SRP, Section 17.1, "Quality Assurance During the Design and Construction Phases," Draft Revision 3, dated June 1996.
- NUREG-0800, SRP, Section 17.2, "Quality Assurance During the Operations Phase," Draft Revision 3, dated June 1996.
- NUREG-0800, SRP, Section 17.3, "Quality Assurance Program Description," Draft Revision 1, dated June 1996.
- ANSI/ASME NQA-1, "Quality Assurance Requirements for Nuclear Facility Applications," 1994 Edition.

**ENCLOSURE**

- ANSI/ANS 3.1, "Selection, Qualification, and Training of Personnel in Nuclear Power Plants," 1993 Edition.

### 3.0 TECHNICAL EVALUATION

In the December 30, 2005, and September 22, 2006, letters to the NRC staff, S&L proposed eight changes to the following chapters, sections, and pages of SL-TR-1A noted below:

#### Proposed Change 1:

##### General Statement Affecting Multiple Sections and Pages of SL-TR-1A -

In the past, SL-TR-1A was established to support both the construction of new nuclear power plants as well as modifications to operating plants. Over the years, and particularly in Revision 10 of SL-TR-1A approved by Ms. Black (NRC) via a letter dated August 28, 1995, SL-TR-1A evolved into primarily an operation based program supporting both nuclear power plants as well as other types of nuclear facilities.

We now wish to restore S&L's capability to support the construction of new nuclear power plants. The approach that is taken for Revision 18 is to restore the former provisions of SL-TR-1A while meeting our new commitments to Regulatory Guide 1.28, Revision 3, and ASME NQA-1-1994 titled "Quality Assurance Requirements for Nuclear Facility Applications." These new commitments regarding Guide 1.28 and NQA-1 were approved by you via a letter dated January 2, 2004. In addition, the applicable parts of the latest versions (Revisions 2 dated July, 1981) of Sections 17.1 and 17.2 of the Standard Review Plan (NUREG-0800) are met by Revision 18.

#### Staff Evaluation and RAI 1:

In RAI 1, the NRC staff determined that SL-TR-1A did not reference the requirements of 10 CFR Part 52 for Early Site Permits (ESPs), Standard Design Certifications (DCs), and Combined Licenses (COL) applications. The TR will need to reference these requirements for activities affecting future nuclear power plants under this regulation.

In the September 22, 2006, letter, S&L responded to this RAI by adding the following to SL-TR-1A:

References to 10 CFR Part 52 were added to Chapters 00.00, 02.00 and 16.00.

Specific changes are as follows:

- references to 10 CFR 50.34(f)(3)(ii) and 10 CFR 52.47(a)(ii) were added after the reference to NRC Generic Letter 83-28 and Page 00-01,
- references to 10 CFR 52.17(a)(i) and 10 CFR 52.18 for early site permits, 10 CFR 52.47(a)(i) and (ii) and 10 CFR 52.48 for standard design certifications, and 10 CFR 52.79 (a) (i), (b) and (c) and 10CFR52.81 for combined licenses all were added to Page 02-1,

- references to 10 CFR 52.78, 10 CFR 50.120 and 10 CFR 55.4 were added at the bottom of Page 02-4, and
- reference to 10 CFR 52.37 was added to page 16-2.

S&L must correct the following typographical errors (10 CFR 52.17(a)(i) should be (a)(1) and 10 CFR 52.79(a)(i) should be (a)(1)) noted in the response above. The NRC staff determined that the new references to 10 CFR Part 52 in SL-TR-1A will then be acceptable. S&L may work on ESP, DC, and COL applicant activities. S&L may also work on COL application construction activities, as defined in 10 CFR 50.10(e)(1) and 50.10(e)(3)(i), as referenced in 10 CFR 52.83, authorized by a limited work authorization.

A future revision to SL-TR-1A can add requirements when a COL is approved by the NRC staff. Until then, S&L should not work on construction activities for a COL holder regulated under 10 CFR Part 52.

#### Proposed Change 2:

Policy Statement and Approval Page -

Mr. Wendorf has succeeded Dr. Wattelet as Chairman and Chief Executive Officer of Sargent & Lundy.

#### Staff Evaluation:

The NRC staff determined that this change to SL-TR-1A is consistent with 10 CFR Part 50, Appendix B, Criterion I, Organization; therefore, it is acceptable.

#### Proposed Change 3:

Chapter 00.00 -

a. Exception is taken from the requirements in Sections 4.1 and 6.3 of Supplement 2S-3 of ASME NQA-1-1994. Instead S&L may apply a 90-day grace period to the requirement for a documented annual evaluation of lead auditor proficiency. When the grace period is applied, the next due date for the activity is based upon the original scheduled date. However, in all cases the periodicity shall not exceed one year plus 90 days.

This exception, contained in the Florida Power and Light Quality Assurance Topical Report, has been approved by the NRC. This exception is consistent with the applicable parts of Sections 17.1 and 17.2 of NUREG-0800, particularly Sections 17.1.18.B.2, 17.1.18.B.3 and 17.2.18, and with Criterion XVIII of 10 CFR 50, Appendix B. Note that Section 17.1.18.B.3 references Regulatory Guide 1.146 which does not contain any 90-day grace period. The NRC staff withdrew Regulatory Guide 1.146 on June 17, 1991. S&L commits to Revision 3 of Regulatory Guide 1.28 which superseded Regulatory Guide 1.146 for qualification of quality assurance program audit personnel.

Staff Evaluation and RAI 2:

In RAI 2, the NRC staff requested additional information on the specific reference to the NRC staff's previous approval of this exception to the audit frequency in the Florida Power & Light (FP&L) Quality Assurance Topical Report. We also request additional information on whether this exception is acceptable for other nuclear power plants.

In the September 22, 2006, response letter, S&L stated that:

This exception is contained in Florida Power & Light's Topical Quality Assurance Report (TQAR) 1-76A, Appendix C dated April 1, 2004. However, this was derived from an exception that the NRC granted to Rochester Gas and Electric Corporation (RG&E) via letter from Guy Vissing (NRC) to Robert Mecredy (RG&E) dated July 22, 1998. The NRC Safety Evaluation is attached to this letter [(Reference 3)]. The exceptions granted to FP&L and RG&E were to Regulatory Guide 1.146, but they are equally applicable to Section 6.3 of Supplement 2S-3 of ASME NQA-1-1994. This grace period would be used by S&L on FPL Group Projects (e.g. Duane Arnold, Seabrook, St. Lucie and Turkey Point) as well as for other nuclear projects.

As noted in the NRC Safety Evaluation for RG&E, the NRC staff's regulatory position on the required periodicity for the reevaluation of lead auditors was not aimed at preventing flexibility in the scheduled performance of the reevaluations but rather at providing an objective measure for ensuring suitable periodic intervals for activities affecting quality.

Since the 90-day grace period proposed by S&L only allows some limited additional flexibility in scheduling activities described in the subject RG, personal proficiency standards and periodicity objectives remain unchanged. While the proposed grace period for RG activities described above constitutes a reduction in commitments in the QA program description, such exceptions continue to satisfy the provisions of Section 17.2 of the SRP. The proposed change to SL-TR-1A continues to comply with NUREG-0800 and 10 CFR Part 50, Appendix B, Criterion XVIII, Audits; therefore, it is acceptable.

Proposed Change 4:

Chapter 0.0 -

b. The commitment to Regulatory Guide 7.10 titled "Establishing Quality Assurance Programs for Packaging Used in Transport of Radioactive Packages" is updated to Revision 2. An exception is taken to Regulatory Position C.3.3 regarding the independence of design verifiers. Instead, S&L follows the provisions of Regulatory Guide 1.28 dated August, 1985 and the 1994 Edition of ANSI/ASME NQA-1-1994 as detailed in Sections 00.00 and 03.04 of this program.

Staff Evaluation:

The NRC staff reviewed the proposed Revision 18 to SL-TR-1A and its references to controlling the design and construction activities of radioactive material packaging and of independent spent fuel storage installations. The NRC staff also notes that in a letter dated December 30, 2005, S&L acknowledges that while the TR discusses 10 CFR Parts 71 and 72, S&L is not a licensee or Certificate of Compliance holder and so obtains review under these parts from the appropriate client. On that basis, the NRC staff neither approves or denies the use of the S&L TR, and the related exemption request to RG 7.10, for Part 71 or 72 activities that S&L undertakes. However, the NRC staff notes that any Part 71 or 72 activities that S&L undertakes for a client will ultimately need to conform to the client's Part 71 or 72 QA program requirements and that these requirements may differ from the those stated in the TR.

Proposed Change 5:

Chapter 01.00 -

Provisions have been added to control soil borings, laboratory testing and hydrology assessments performed by consultants or subcontractors of S&L early in the construction of a new facility.

These provisions are consistent with the applicable parts of Sections 17.1 and 17.2 of NUREG-0800, particularly Sections 17.1.2.C.2 and 17.2.C, and with Criterion II of 10 CFR 50, Appendix B with the clarification that these services may be commercial grade dedicated in accordance with 10 CFR 21.

Staff Evaluation:

The NRC staff determined that this change to SL-TR-1A, combined with added references to 10 CFR Part 52 regulations discussed earlier in Proposed Change 1, is consistent with NUREG-0800 and 10 CFR Part 50, Appendix B, Criterion II, Quality Assurance Program; therefore, it is acceptable.

Proposed Change 6:

Section 03.04 -

A requirement has been added to perform broad system and structure design reviews prior to initial fuel loading.

This requirement is consistent with Section 17.1.3.E.4.c of NUREG-0800 and with Criterion III of 10 CFR 50, Appendix B.

Staff Evaluation:

The NRC staff determined that this change to SL-TR-1A is consistent with NUREG-0800 and 10 CFR Part 50, Appendix B, Criterion III, Design Control; therefore, it is acceptable. However,



as indicated in Proposed Change 1, S&L may work on ESP, DC, and COL applicant activities. S&L may also work on COL application construction activities, as defined in 10 CFR 50.10(e)(1) and 50.10(e)(3)(i), as referenced in 10 CFR 52.83, authorized by a limited work authorization.

A future revision to SL-TR-1A can add requirements when a COL is approved by the NRC staff. Until then, S&L should not work on construction activities for a COL holder regulated under 10 CFR Part 52.

#### Proposed Change 7:

##### Section 11.05 -

A new section is added concerning pre-operational/startup test procedures. Engineers and testers are qualified in accordance with either ANSI/ANS-3.1-1987 or Supplement 2S-1 and Appendix 2A-1 of ANSI/ASME NQA-1, as appropriate (see Pages 00-3 and 00-4 of SL-TR-1A).

This is consistent with Sections 17.1.11.A.1 of NUREG-0800 and with Criterion XI of 10 CFR 50, Appendix B.

#### Staff Evaluation and RAI 3:

In RAI 3, the NRC staff determined that SL-TR-1A should reference NRC RG 1.68, "Initial Test Programs," Revision 2, dated August 1978 and RG 1.8, "Qualification and Training of Personnel for Nuclear Power Plants," Revision 3, dated May 2000, which endorses ANSI/ANS 3.1-1993, "Selection, Qualification, and Training of Personnel in Nuclear Power Plants." RG 1.8 and ANSI/ANS 3.1-1993 should also be referenced in place of ANSI/ANS 3.1-1987. RG 1.68 contains preoperational and startup test procedures for safety related and important to safety systems that are subject to quality assurance requirements. RG 1.8 and ANSI/ANS 3.1-1993 contain current training qualification requirements for QA and quality control personnel who review, revise, and approve pre-operational and startup test procedures in nuclear power plants.

In the September 22, 2006, letter, S&L stated the following in response to this RAI:

S&L agrees that commitments to Revision 3 of RG 1.8 and ANSI/ANS 3.1-1993 with exceptions should be added to SL-TR-1A.

Commitments to Revision 3 of RG 1.8 and ANSI/ANS 3.1-1993 were added to Pages 00-3 (in lieu of ANSI/ANS 3.1-1987 and -1978), 11-1 and 11-3.

The exceptions that S&L proposes to take to RG 1.8 and ANSI/ANS 3.1 are:

- S&L commits to Part 1 and Appendix 2A-1 of the 1994 Edition of ANSI/ASME NQA-1 in lieu of the 1983 Edition, and

- Alternatives to the education and experience requirements, such as experience other than at a nuclear-fuel electric power production plant, shall be evaluated and documented by the Chief Executive Officer for the Quality Assurance Manager, by the Quality Assurance Manager for an individual providing quality assurance supervision and other members of the Quality Assurance Division, and by the responsible manager for other personnel in lieu of the applicable plant manager.

Regarding Revision 2 of RG 1.68, Initial Test Programs, S&L suggests that the appropriate place for a licensee to take a position on RG 1.68 is in the SAR, Chapter 14, "Initial Plant Test Program." S&L will then follow whatever position the applicable client takes on this guide. This is consistent with Sections 14.2, VI of 17.1 and 17.2 (and also II.U and VI of draft 17.5) of NUREG-0800. Thus, we believe that a reference to RG 1.68 is neither desirable or necessary.

The NRC staff finds that these exceptions to RG 1.8 are acceptable because they still meet the requirements in 10 CFR Part 50, Appendix B, Criterion II, Quality Assurance Program.

The NRC staff agrees with S&L that RG 1.68 would be found in any future COL Safety Analysis Report Chapter 14 and that S&L would follow the applicable position of the COL client; thus, S&L does not need to add RG 1.68 to SL-TR-1A.

The NRC staff also finds that the new Section 11.05 in SL-TR-1A is consistent with NUREG-0800 and 10 CFR Part 50, Appendix B, Criterion XI, Test Control; therefore, it is acceptable.

#### Proposed Change 8:

##### Section 16.01 -

A sentence has been added that states: "Management, at all levels, is to foster a 'no-fault' attitude toward the identification of conditions adverse to quality." While this was the expectation of upper management, it has been decided to explicitly state it.

While this Topical Report is based on Sections 17.1 and 17.2 of the Standard Review Plan, this expectation is contained in Section 17.3.A.6.a of the Standard Review Plan. It is consistent with Criterion XVI of 10 CFR 50, Appendix B and with NRC Regulatory Issue Summary 2005-20 titled "Revision to Guidance Contained in NRC Generic Letter 91-18, 'Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and nonconforming Conditions and on Operability'."

#### Staff Evaluation:

The NRC staff determined that adding a "no fault" attitude toward identifying conditions adverse to quality to SL-TR-1A is consistent with NUREG-0800 and 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action; therefore, it is acceptable.

#### 4.0 LIMITATIONS AND CONDITIONS

S&L may work on construction activities, as defined in 10 CFR 50.10(e)(1) and 50.10(e)(3)(i), and referenced by 10 CFR 52.83, for COL applicant construction activities authorized by a limited work authorization.

A future revision to SL-TR-1A can add requirements when a COL application is approved by the NRC staff. Until then, S&L should not work on construction activities for a COL holder regulated under 10 CFR Part 52.

#### 5.0 CONCLUSION

The NRC staff finds that the S&L proposed changes in SL-TR-1A, Revision 18, are consistent with the requirements in 10 CFR 50.54(a), 10 CFR Part 50, Appendix B, and 10 CFR Part 52 and S&L previous commitments to NUREG-0800, RGs, and industry standards related to quality assurance. Therefore, the NRC staff finds that the proposed changes in SL-TR-1A, Revision 18, are acceptable.

#### 6.0 REFERENCES

1. S&L, "Nuclear Quality Assurance Program," Topical Report SL-TR-1A, Revision 18, dated December 30, 2005, ADAMS Accession No. ML060090385
2. S&L Response to NRC Staff Requests for Additional Information related to SL-TR-1A, Revision 18, dated September 22, 2006, ADAMS Accession No. ML062690233
3. NRC Staff Letter from Guy Vissing to Dr. Robert C. Mecredy, NRC Safety Evaluation to RG&E, dated July 22, 1998, ADAMS Accession No. ML062680254

Attachment: Resolution of Comments

Principal Contributor: Frank X. Talbot

Date: February 6, 2007

RESOLUTION OF COMMENTS  
ON DRAFT SAFETY EVALUATION FOR  
TOPICAL REPORT (TR) SL-TR-1A, REVISION 18  
"NUCLEAR QUALITY ASSURANCE PROGRAM"  
SARGENT & LUNDY LLC (S&L)

By letter dated January 5, 2007 (Agencywide Document Access and Management System Accession No. ML070100297), Sargent & Lundy (S&L) provided comments on the draft safety evaluation for TR SL-TR-1A, Revision 18, "Nuclear Quality Assurance Program." The following is the NRC staff resolution of those comments.

S&L Comment:

Section 3.0, Page 3, Line 4 and Section 3.0, Page 5, Line 35: S&L has requested permission to eliminate the sentences, "S&L should not work on construction activities for a COL holder regulated under 10 CFR Part 52. A future revision to SL-TR-1A can add these requirements when a COL is approved by the NRC staff." S&L suggested the following change:

"S&L may also work on construction activities, as defined in 10 CFR 50.10(b) referenced by 10 CFR 52.83, authorized by a limited work authorization.

A future revision to SL-TR-1A can add requirements when a COL is approved by the NRC staff. Until then, S&L should not work on construction activities for a COL holder regulated under 10 CFR Part 52."

NRC Resolution:

The NRC staff agreed with the S&L changes, except S&L should delete the reference to 10 CFR 50.10(b) and add references to the regulations in 10 CFR 50(e)(1) and 50(e)(3)(i). These regulations contain the requirements for NRC approval of limited work authorizations.

**ATTACHMENT**