



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

February 7, 2018

Mr. Robert S. Bement
Executive Vice President Nuclear/
Chief Nuclear Officer
Mail Station 7602
Arizona Public Service Company
P.O. Box 52034
Phoenix, AZ 85072-2034

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 –
REGULATORY AUDIT PLAN RE: LICENSE AMENDMENT REQUESTS TO
ADOPT TECHNICAL SPECIFICATIONS TASK FORCE TRAVELER TSTF-505-A,
RISK-INFORMED EXTENDED COMPLETION TIMES INITIATIVE 4b, AND
10 CFR 50.69, "RISK-INFORMED CATEGORIZATION AND TREATMENT OF
STRUCTURES, SYSTEMS, AND COMPONENTS FOR NUCLEAR POWER
REACTORS" (CAC NOS. MF6576, MF6577, AND MF6578, MF9971, MF9972,
AND MF9973; EPID L-2015-LLA-0001, AND L-2017-LLA-0276)

Dear Mr. Bement:

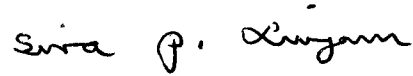
By letter dated July 31, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15218A300), as supplemented by letters dated April 11, 2016, and November 3, 2017 (ADAMS Accession Nos. ML16102A463 and ML17307A188, respectively), Arizona Public Service Company (the licensee) submitted a license amendment request (LAR) to modify Technical Specification requirements to permit the use of risk-informed completion times in accordance with Technical Specifications Task Force (TSTF) Traveler TSTF-505-A, Revision 1, "Provide Risk-Informed Extended Completion Times – RITSTF [Risk-Informed TSTF] Initiative 4b," for Palo Verde Nuclear Generating Station, Units 1, 2, and 3.

In addition, by letter dated July 19, 2017 (ADAMS Accession No. ML17200D162), the licensee submitted another LAR to adopt Title 10 of the *Code of Federal Regulations* Section 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors."

To support its safety evaluations, the U.S. Nuclear Regulatory Commission staff will conduct an audit at the licensee's site facility in Tonopah, Arizona, from February 20-23, 2018. If additional time is required to complete the audit, the audit completion date will be extended to February 24, 2018. The Enclosure to this letter provides an audit plan in support of this audit.

If you have any questions, please contact me at 301-415-1564 or via e-mail at Siva.Lingam@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Siva P. Lingam".

Siva P. Lingam, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-528, STN 50-529,
and STN 50-530

Enclosure:
Regulatory Audit Plan

cc: Listserv

REGULATORY AUDIT PLAN FOR FEBRUARY 20–23, 2018,

REGARDING LICENSE AMENDMENT REQUESTS

TO ADOPT TSTF-505-A, REVISION 1 AND 10 CFR 50.69

ARIZONA PUBLIC SERVICE COMPANY

PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3

DOCKET NOS. 50-528, 50-529, AND 50-530

1.0 BACKGROUND

The U.S. Nuclear Regulatory Commission (NRC) staff is currently engaged in a review of license amendment requests (LARs) for the Palo Verde Nuclear Generating Station (PVNGS), Units 1, 2, and 3.

LAR Associated with TSTF-505-A

By letter dated July 31, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15218A300), as supplemented by letters dated April 11, 2016, and November 3, 2017 (ADAMS Accession Nos. ML16102A463 and ML17307A188, respectively), Arizona Public Service Company (APS, the licensee) submitted an LAR to modify Technical Specification (TS) requirements to permit the use of risk-informed completion times (RICTs) in accordance with Technical Specifications Task Force (TSTF) Traveler TSTF-505-A, Revision 1, "Provide Risk-Informed Extended Completion Times – RITSTF [Risk-Informed TSTF] Initiative 4b," for PVNGS, Units 1, 2, and 3.

The NRC staff will conduct an audit at the licensee's site facility in Tonopah, Arizona, from February 20-23, 2018. The proposed audit will help the NRC staff better understand the licensee's proposed RICT program and the technical acceptability of the underlying probabilistic risk analysis (PRA) models.

LAR Associated with 10 CFR 50.69

By letter dated July 19, 2017 (ADAMS Accession No. ML17200D162), the licensee submitted another LAR to adopt Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors."

The proposed audit will help the NRC staff gain a better understanding of the licensee's proposed risk-informed categorization process and the acceptability of the PRA as it pertains to use for the 10 CFR 50.69 application. The NRC staff will verify compliance with 10 CFR 50.69 with respect to the categorization of structures, systems, and components (SSCs) that are considered in risk-informing special treatment requirements. Special treatment refers, in the rule, to those regulatory requirements that provide assurance beyond normal industry practices that SSCs perform their design-basis functions.

Enclosure

The proposed audit for both LARs will be held in accordance with the Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-111, "Regulatory Audits," dated December 16, 2008 (ADAMS Accession No. ML082900195).

General

A regulatory audit is a planned, license or regulation-related activity that includes the examination and evaluation of primarily non-docketed information. A regulatory audit is conducted with the intent to gain understanding, to verify information, and/or to identify information that will require docketing to support the basis of a licensing or regulatory decision. Performing a regulatory audit of the licensee's information is expected to assist the NRC staff in efficiently conducting its review and gain insights on the licensee's processes or procedures. Information that the NRC staff relies upon to make the safety determination must be submitted on the docket. However, the NRC staff may review supporting information retained as records and discussed in 10 CFR 50.71 "Maintenance of records, making of reports" and/or 10 CFR 54.37 "Additional records and recordkeeping requirements," which although not required to be submitted as part of the licensing action, would help the staff better understand the licensee's submitted information.

The objectives of this regulatory audit involve determining the technical adequacy of the PRA by:

- verifying the conformance described in the LAR of the categorization process with NRC-endorsed guidance, and the licensee's implementation of the endorsed categorization process;
- assessing that the PRA quality is adequate for use in the application;
- confirming that non-PRA methods used for evaluating the risk from external hazards are consistent with those allowed in Nuclear Energy Institute (NEI) 00-04, "10 CFR 50.69 SSC Categorization Guideline," dated July 2005 (ADAMS Accession No. ML052900163), and consider the current as-built, as-operated plant;
- observing the results of the Integrated Decisionmaking Panel;
- identifying new information that is needed in order for NRC staff to reach a licensing or regulatory decision;
- gaining a better understanding of the detailed calculations, analyses and bases underlying the TSTF-505-A LAR and confirm the NRC staff's understanding of the LAR;
- reviewing the approach for developing and implementing nuclear power station risk-managed technical specifications programs;
- determining the extent that the licensees' proposed amendments to modify TS requirements for RICTs are in accordance with TSTF-505-A.

- confirming whether the proposed configurations introduce any adverse effects on the ability or capacity of plant equipment to perform its design-basis function(s) if the plant is operated in the proposed TS allowable configuration defined by the identified PRA back-stop in terms of time; and,
- evaluating the relationship between any fixed completion times (i.e., not RICT calculations) and currently acceptable NRC guidance.

2.0 REGULATORY AUDIT BASIS

The basis of this audit is APS LARs for PVNGS, Units 1, 2, and 3, submitted by letters dated July 19, 2017 and July 31, 2015, as supplemented by the letters dated April 11 and November 3, 2017; 10 CFR 50.69; RG 1.201, Revision 1, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to their Safety Significance" (ADAMS Accession No. ML061090627); and NRC Inspection Manual Procedure 37060, "10 CFR 50.69 Risk-Informed Categorization And Treatment of Structures, Systems, and Components Inspection," dated September 2011 (ADAMS Accession No. ML102700396).

3.0 REGULATORY AUDIT SCOPE OR METHOD

The NRC staff will confirm the PRA acceptability described in the LAR and verify conformance of the 10 CFR 50.69 categorization process including NRC-endorsed guidance. The team plans to discuss audit questions and identify the need for any additional information or clarification.

4.0 INFORMATION AND OTHER MATERIAL NECESSARY FOR THE AUDIT

The NRC audit team will require access to personnel knowledgeable in all aspects of the licensee's LARs and the relevant PRA models (i.e., Fire (F), Internal Events (IE), Internal Flood (IF), and Seismic (S)) documentation, and procedures used to support the LARs. At a minimum, a hardcopy and electronic copy of the following documentation should be available to the audit team on the first day of the audit. In addition, presentations and specific discussion topics may be requested prior to the audit.

Documents (10 CFR 50.69)

- All PRA models (i.e., F, IE, IF, S, etc.) and PRA documentation should be available on computer with licensee support;
- All PRA peer review reports, self-assessments of the PRA models, and Facts and Observations (F&O) closure reports;
- Documentation of changes to the PRA models with justification of upgrades/updates;
- PVNGS 10 CFR 50.69 LAR;
- 10 CFR 50.69 draft procedures;
- Documentation of draft categorization results;
- Access to the database used to track PRA Configuration and Control Management (PRA changes);
- Internal procedures governing PRA models, documentation, and self-assessments;
- Procedure governing the Appendix B, corrective action program; and
- Other documents that include discussions on key assumptions and sources of uncertainty for the seismic PRA (SPRA) with licensee dispositions relevant to this application.

Presentations (10 CFR 50.69)

- 10 CFR 50.69 Process Presentation;
- Walk through draft categorization results; and
- SPRA Overview (scope should be similar to the presentation given to an SPRA peer review team at the beginning of its review).

Discussions (10 CFR 50.69)

- Technical discussions will incorporate all SPRA audit questions prepared separately

Documents (TSTF-505-A)

- Analyses supporting PRA success criteria, which differ from design-basis criteria;
- Internal Events PRA and Fire PRA (FPRA) documentation logic models should be available on computer with licensee support;
- IE and FPRA peer review reports;
- Risk Management Action (RMA) procedure;
- PVNGS LAR; and
- Plant and PRA configuration control procedures.

Presentations (TSTF-505-A)

- RICT Program Presentation;
- PRA functional definition, development, and use presentation
- Configuration Risk Management Program (CRMP) demonstration (including presentation of user interface for evaluations); and
- Walkthrough sample RICT calculations.

Discussions (TSTF-505-A)

- Discussion on how external events are considered for the RICT;
- Discussion on how RMAs are determined and implemented;
- Discuss reviews and acceptance testing of the CRMP model;
- Discussion on how the CRMP is maintained consistent with the baseline PRA Model;
- Discuss how cumulative risk will be evaluated and tracked;
- Discuss the LAR and RICT Program;
- Discuss inspection-related aspects of TSTF-505-A.

5.0 TEAM (TENTATIVE) AND REVIEW ASSIGNMENTS

NRC/Office of Nuclear Reactor Regulation (NRR) Division of Risk Assessment (DRA)

Jay Robinson, BC (Acting) (APLB)
Adrienne Driver (APLA)
Jonathan Evans (APLA)
Leslie Fields (APLA)
Brandon Hartle (APLA)

Todd Hilsmeier (APLA)
Sara Lyons (APLB)

NRC/Office of New Reactors, Division of Safety Systems, Risk Assessment, and Advanced Reactors

Malcolm Patterson

NRC/NRR, Division of Engineering (DE)

Tania Martinez-Navedo, Branch Chief (EENB)
Norbert Carte (EICB)
Kaihua Hsu (EMIB)
Ming Li (EICB)
Khoi Nguyen (EEOB)
George Thomas (ESEB)
Khadijah West (EICB)

NRC/NRR Division of Safety Systems (DSS)

Victor Cusumano, Branch Chief (STSB)
Margaret Chernoff (STSB)

Pacific Northwest National Laboratory (PNNL) (Contractors)

Garill Coles
Nathan Barrett
Steve Short

Abbreviations Used for the Team List

APLA	Probabilistic Risk Assessment Licensing Branch
APLB	Probabilistic Risk Assessment Licensing Branch 2
EENB	Electrical Engineering New Reactors and License Renewal Branch
EEOB	Electrical Engineering Operating Reactors Branch
EICB	Instrumentation and Controls Branch
EMIB	Mechanical Engineering and Inservice Testing Branch
ESEB	Structural Engineering Branch
STSB	Technical Specifications Branch

The audit will be conducted by NRC staff and contractors from PNNL. The staff knowledgeable in risk-informed licensing reviews will comprise the audit team. Observers at the audit may include NRC technical reviewers and project managers (PMs).

The NRC audit team leader will be Leslie Fields (technical PM) and the NRC technical leads will be Adrienne Driver (PRA, 10 CFR 50.69), Brandon Hartle (PRA, TSTF-505-A), and Sara Lyons (SPRA). The audit team leader will conduct daily briefings on the status of the review and coordinate audit activities while on site. The tables below show (1) audit milestones and schedule, and (2) planned audit team composition and their assigned areas for review during the audit.

Audit Milestones and Schedule		
Activity	Timeframe	Comments
Clarification Call	2/10 or later	Teleconference from NRC headquarters to provide clarification of audit questions
Onsite Audit Kickoff Meeting	2/20/2018	Brief team introduction and discussion of the scope of the audit. The licensee should introduce team members and give logistics for the week.
End of Day Summary Briefings	2/20/2018-2/23/2018	Meet with licensee to provide a summary of any significant findings and requests for additional assistance.
Provide Rooms for Focused Topic Discussions	2/20/2018-2/23/2018	Facilitate discussions between site and staff technical areas. Provide one or two breakout areas, if possible, for smaller discussions.
Onsite Audit Exit Meeting	2/23/2018	NRC staff will hold a brief exit meeting with the licensee's staff to conclude audit activities.
Audit Summary (see Section 8.0)	45 days after exit	To document the audit. (45 business days)

Regulatory Audit Plan Review Areas and Assignments			
		Lead	Support
1	Categorization Process	Team	Team
2	PRA Acceptability	APLA/B	PNNL
2.a	Peer Reviews	APLA/B	PNNL
2.b	Facts and Observations (Closure Process)	APLA/B	PNNL
2.c	PRA Updates/Upgrades	APLA/B	PNNL
3	External Hazards	APLA/B	PNNL
4	Integrated Decisionmaking Panel	APLA	PNNL
5	Documentation, Configuration Control, and Quality	APLA/B	Team
6	Defense-in-Depth and Safety Margins	APLA	PNNL
7	Risk Assessment	APLA/B	PNNL
8	Risk Management Actions	APLA	PNNL
9	Monitoring Program	APLA	PNNL
10	PRA Functionality	APLA	PNNL
11	PRA Technical Adequacy	APLA/B	PNNL
12	Plant-Specific Technical Specifications	DE, DSS	

6.0 LOGISTICS

This regulatory audit will begin February 20, 2018, and will last approximately 4-5 days. A conference call with the licensee will be scheduled 1 to 2 weeks prior to the audit to discuss the details of the audit plan. The dates in the milestone chart are subject to change based on mutual agreement between the licensee and the NRC. An entrance meeting for this audit will be held on the first day at 9:00 a.m. and an exit meeting will be held the final day at 3:00 p.m. (or at another time mutually agreed to by the licensee and the NRC. The NRC audit team leader will provide daily progress briefings to licensee personnel on the first and second day of the audit.

The audit will take place at a location agreed upon by the licensee and the audit leader where (1) the necessary reference material and (2) appropriate PVNGS staff will be available to

support the review. Visitor access will be requested for the entire audit team. It is recommended any security paperwork and processing be handled prior to the first day of the audit, if possible.

The audit will start at 8:30 a.m. (Mountain Standard Time (MST)) on Tuesday, February 20, and possibly conclude on Friday, February 23, at approximately 3:00 p.m. (MST) or Saturday, February 24 at approximately 3:00 p.m. (MST) if the NRC staff requires additional time.

7.0 SPECIAL REQUESTS

The regulatory audit team will require the following to support the regulatory audit:

- Two computers with internet access and printing capability in the NRC room, access to the site portal, and wired or wireless guest internet access for all team members.
- One main conference room with three additional private areas for conference calling capability should be made available. The main NRC conference room should be set up for 12 to 15 NRC staff and contractors.
- Access to licensee personnel knowledgeable in the categorization process, plant design, operation and the plant PRAs. In addition, PVNGS staff who participated in the June 2017 F&O closure process and in preparing the LARs should be available for discussion.

8.0 DELIVERABLES

At the conclusion of the audit, the NRC staff will provide a summary of audit results for each of the topics defined in the audit scope. The NRC Regulatory Audit Report will be issued within approximately 45 business days of the completion of the audit.

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 REGULATORY AUDIT PLAN RE: LICENSE AMENDMENT REQUESTS TO
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 DATED FEBRUARY 7, 2018

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ADAMS Accession No. ML18037A953

*by memorandum

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DE/APLB/BC(A)*
NAME	SLingam	PBlechman	JRobinson
DATE	2/7/18	2/7/18	2/2/18
OFFICE	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM	
NAME	RPascarelli	SLingam	
DATE	2/7/18	2/7/18	

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