



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

January 29, 2014

Mr. Joseph W. Shea  
Vice President, Nuclear Licensing  
Tennessee Valley Authority  
1101 Market Street, LP 3D-C  
Chattanooga, TN 37402-2801

SUBJECT: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 – AUDIT OF THE  
LICENSEE'S MANAGEMENT OF REGULATORY COMMITMENTS  
(TAC NOS. MF3081 AND MF3082)

Dear Mr. Shea:

Every 3 years, the U.S. Nuclear Regulatory Commission (NRC) staff audits a licensee's commitment management program in accordance with the NRC Office of Nuclear Reactor Regulation Office Instruction LIC-105, "Managing Regulatory Commitments Made by Licensees to the NRC." This office instruction provides the NRC staff and its stakeholders with guidance on managing regulatory commitments and ensures a common understanding of the handling of regulatory commitments made to the NRC staff by licensees for commercial nuclear power reactors.

The NRC staff audited the Tennessee Valley Authority's (the licensee's) commitment management program during the period of December 16 - 20, 2013. The NRC staff concluded that the licensee implemented its commitments on a timely basis, and the licensee implemented an effective program for managing commitment changes. The enclosed audit report contains the details of the audit.

Sincerely,

A handwritten signature in black ink, appearing to be "A. Klett", is written over a horizontal line.

Audrey L. Klett, Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

Enclosure:  
Audit Report

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AUDIT REPORT BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
LICENSEE MANAGEMENT OF REGULATORY COMMITMENTS  
SEQUOYAH NUCLEAR PLANT, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-327 AND 50-328

1.0 INTRODUCTION AND BACKGROUND

On September 16, 2013, the Office of Nuclear Reactor Regulation (NRR) of the U.S. Nuclear Regulatory Commission (NRC) issued Revision 5 of NRR Office Instruction LIC-105, "Managing Regulatory Commitments Made by Licensees to the NRC" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13193A358). LIC-105 provides NRR staff guidance on managing regulatory commitments and ensures a common understanding of the handling of regulatory commitments. The guidance is consistent with the Nuclear Energy Institute (NEI) 99-04, "Guidelines for Managing NRC Commitment Changes" (ADAMS Accession No. ML003680088), which the NRC staff found acceptable as described in Regulatory Issue Summary 2000-17, "Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC Staff" (ADAMS Accession No. ML003741774). NEI 99-04 defines a regulatory commitment as an explicit statement to take a specific action agreed to or volunteered by a licensee and submitted in writing on the docket to the NRC.

LIC-105 requires that every 3 years, NRR project managers (PMs) audit the licensee's commitment management program by assessing the adequacy of the licensee's implementation of a sample of commitments made to the NRC in past licensing actions and the licensee's program for managing changes to its commitments. The audit also determines whether any commitments were misapplied (e.g., whether NRC staff accepted licensee-proposed commitments rather than the necessary regulatory requirement or obligation).

2.0 AUDIT PROCEDURE AND RESULTS

The NRR PMs audited Tennessee Valley Authority's (TVA's, the licensee's) commitment management program at the Sequoyah Nuclear Plant (SQN) during an on-site visit from December 16 to 20, 2013. The NRR PMs reviewed commitments made by TVA since the previous NRC audit report dated December 30, 2010 (ADAMS Accession No. ML103610353), as corrected by letter dated January 19, 2011 (ADAMS Accession No. ML110030328). The audit consisted of verifying the licensee's implementation of its commitments and the licensee's program for managing changes to its commitments and determining whether any commitments were misapplied.

2.1 Verification of Licensee's Implementation of Commitments

2.1.1 Audit Scope

The NRR PMs reviewed a sample of about 40 commitments to determine whether the licensee implemented commitments it made to the NRC and captured commitments in an effective program for future implementation. The audit focused on regulatory commitments made in writing to the NRC as part of licensing actions or activities. The NRR PMs reviewed closed

Enclosure

commitments to verify that the licensee properly implemented them. The NRR PMs also reviewed open commitments to confirm the licensee properly documented, tracked, and scheduled them for implementation. The NRR PMs reviewed documents generated by processes in effect during the scope of the audit and other documents related to commitments.

The NRR PMs did not audit commitments made in licensee event reports, responses to notices of violations, confirmatory orders, confirmatory action letters, or as part of SQN's current license renewal effort if other NRC processes (e.g., NRC's Reactor Oversight Process inspection procedures) prescribed separate followup for these items.

### 2.1.2 Audit Results

The NRR PMs concluded that the licensee appropriately implemented the commitments it made to the NRC. The NRR PMs reviewed licensee correspondence, procedure changes, design change packages, and work orders that the licensee created or revised because of commitments made to the NRC and found that the licensee created or changed these documents in accordance with the commitments. The NRR PMs found that the licensee's commitment tracking program (i.e., Maximo) captured the regulatory commitments identified by the NRC and licensee staff prior to the audit. The attachment to this report summarizes the sample of licensee commitments audited by the NRR PMs and the status of those commitments as of the end of the audit. This attachment does not include all commitments the licensee made to the NRC.

The NRR PMs noted that the licensee's commitment implementation procedure, NPG-SPP-03.3, "NRC Commitment Management," Revision 3, identified personnel authorized to make commitments. The authorized personnel did not include any third parties (e.g., NEI). The NRR PMs identified a few minor issues, such as a missing form for entering commitments in Maximo, an incorrect due date, and discrepancies between the original commitment language and that captured in Maximo. TVA staff corrected the issues or entered them into its corrective action program. The NRR PMs noted that the licensee's software program for managing commitments has some limitations that cause inefficiencies (e.g., inability to print records, perform queries and other database functions, and update records after commitment closure is recorded). The NRR PMs also observed that various licensee staff have differing views about the required timeliness noted on commitment closure forms regarding the commitment completion date (i.e., whether the commitment is considered closed when the work is completed versus when TVA's licensing staff reviews and signs the completion form). The NRR PMs noted that if TVA's licensing staff identifies, after the commitment due date, issues with the actions taken, that TVA could be vulnerable to missing the commitment due dates. The licensee captured these issues in its corrective action program as the following service request (SR) and problem evaluation reports (PERs):

- SR 768437 – Commitment Management Process Improvement Recommendations
- PER 825142 – Evaluation Guidance for Commitment Closure Completion
- PER 825143 – SQN Commitment Audit Observation
- PER 825188 – Commitment Closure Form Included Wrong Due Date

## 2.2 Verification of Licensee's Program for Managing Commitment Changes

### 2.2.1 Audit Scope

The NRR PMs reviewed the licensee's procedures and program for managing commitment changes to verify the licensee established adequate controls for modifying or deleting commitments made to the NRC. The NRR PMs compared the licensee's process for controlling regulatory commitments to the guidelines in NEI 99-04. The NRR PMs staff also reviewed modified or deleted commitments that the licensee reported and did not report to the NRC. The NRR PMs reviewed the licensee's commitment summary reports provided to the NRC on December 13, 2011, and July 1, 2013 (ADAMS Accession Nos. ML11350A233 and ML13189A134, respectively). The NRR PMs staff also determined whether the licensee's commitment management system ensured traceability of commitments following initial implementation to verify that the licensee evaluated proposed changes to affected design features or operating practices in accordance with its commitment change control process.

### 2.2.2 Audit Results

The NRR PMs reviewed the evaluation forms for the commitment changes that the licensee reported and did not report to the NRC and found no issues. The NRR PMs concluded that the licensee established adequate controls for modifying or deleting commitments made to the NRC. The NRR PMs concluded that the licensee modified or deleted commitments in accordance with the guidelines in NEI 99-04. The NRR PMs staff also determined that the licensee's commitment management system ensured traceability of commitments following initial implementation.

The NRR PMs noted that the licensee's staff performed a self-assessment of its commitment management audit, which demonstrates positive behavior for identifying and correcting issues related to regulatory commitment management. The NRR PMs provided the licensee with feedback on separately entering multiple commitments from the same correspondence into Maximo for easier tracking. The NRR PMs also provided the licensee with feedback on ensuring adequate communications between the site and TVA's corporate office to ensure all commitments are captured in Maximo and assigned to the site.

## 2.3 Determination of Misapplied Commitments

### 2.3.1 Audit Scope

Prior to the onsite audit visit, the NRR PMs reviewed license amendment safety evaluations, exemptions, and relief request safety evaluations issued to the licensee during the previous 3 years to determine if the documents contained any misapplied commitments.

### 2.3.2 Audit Results

The NRR PMs did not identify any misapplied commitments in licensing actions from the past 3 years. However, the licensee identified that in the NRC's cover letter and safety evaluation dated September 28, 2007 (ADAMS Accession No. ML072420043), regarding temperature and level limits of the ultimate heat sink, the NRC staff characterized some licensee statements as

regulatory commitments. However, the licensee identified only one of the four statements in the cover letter as a regulatory commitment made in writing within the licensee's correspondence to the NRC. The NRC staff's safety evaluation appeared to rely on these statements and commitments to form its conclusions for approving the amendment; therefore, the NRR PMs identified these statements and commitments as misapplied commitments. The NRR PMs confirmed that the licensee implemented these statements and commitments. Therefore, the misapplied commitments did not result in adverse impacts. The NRC staff concluded that no further action is required with respect to these misapplied commitments.

### 3.0 CONCLUSION

Based on the audit results, the NRC staff concludes that the licensee implemented commitments in a timely basis, adequately tracked commitments for future implementation, and implemented an effective program to manage regulatory commitment changes.

### 4.0 LICENSEE PERSONNEL CONTACTED FOR THIS AUDIT

Zachary Kitts, SQN Site Licensing Engineer

Principal Contributors: Audrey Klett, NRR,  
Farideh Saba, NRR

Attachment: Summary of Audited Commitments

### Audited Commitments

Item No.	SQN ID#	Commitment Letter Date	Summary of Commitment	Due Date	Status	Method of Closure
1	10293002	11/06/09	TVA will be in full compliance with 10 CFR 73.55(e)(7)(i)(C) and 10 CFR 73.55(i)(3)(vii) for Sequoyah Nuclear Plant by September 24, 2012.	09/24/12	CLOSED	Completed 09/17/12. SQN has completed the build of a new remote monitoring system and the installation of a new access control system and installation of a new uninterruptible power supply.
2	111702899	10/11/08	Response to NRC GL 2008-01: TVA will evaluate adopting the revised ISTS SR 3.5.2.3 (NUREG 1431) within 6 months of NRC approval of the traveler.	TBD	OPEN	Due date dependent on NRC approval of the TSTF. TVA might revise the commitment to state "evaluate adoption of TSTF" instead of adoption of just the SR.
3	111743796	09/08/09	TVA will revise the UFSAR during the update following implementation of the proposed TSC.	06/24/11	COMPL (i.e., closed)	Completed 12/14/11 with submittal of UFSAR. The licensee's commitment due date in the system was arbitrary.
4	112302028	06/01/11	(LAR to Use Methodology described in Technical Report No. SQN2-SGR-TR3, Alternate Rebar Splice – Bar-Lock Mechanical Splices; Withdrawal of Request.) For the U2 SG replacement activities, members of each splicing crew involved in installation activities will be trained and qualified to install the Bar-Lock Model 6L and Model 8L couplers.	10/22/12	COMPL	Completed 11/2/12. Licensee provided training attendance, qualifications records, lesson plans, and work packages.

Item No.	SQN ID#	Commitment Letter Date	Summary of Commitment	Due Date	Status	Method of Closure
5	112999193	12/22/11	TVA will complete installation of drain flow chamber modification by 12/31/12.	12/31/12	CLOSED	Completed 11/20/12 with installation of Modification DCN 22429.
6	113187391	01/27/12	Training will be conducted after the work implementing documents supporting implementation of the amendment request have been prepared and/or revised and prior to opening either of the 18 inch Shield Building dome hatches.	N/A	COMPL	Commitment withdrawn on 06/07/12 when the licensee withdrew its amendment request.
7	113187505	01/27/12	Work implementing documents supporting implementation of amendment request will be prepared and/or revised prior to opening of either the 18-inch Shield Building dome hatches.	N/A	COMPL	Commitment withdrawn on 06/07/12 when the licensee withdrew its amendment request.
8	113187575	01/27/12	Procedures supporting implementation of the amendment request will be prepared and/or revised prior to opening of either the 18-inch Shield Building dome hatches.	N/A	COMPL	Commitment withdrawn on 06/07/12 when the licensee withdrew its amendment request.
9	113187908	01/27/12	Training will be conducted after the procedures supporting implementation of the amendment request have been prepared and/or revised and prior to opening either of the 18-inch Shield Building dome hatches.	N/A	COMPL	Commitment withdrawn on 06/07/12 when the licensee withdrew its amendment request; however, licensee conducted the training as of 05/16/12.

Item No.	SQN ID#	Commitment Letter Date	Summary of Commitment	Due Date	Status	Method of Closure
10	113457849	09/29/11	Appendix A of the licensee's 09/29/11 submittal contains multiple (11) commitments.	10/15/12	COMPL	Completed 10/30/12. These commitments were added as conditions the operating license (as Appendix C) with AMD #330.
11	113636507	06/13/12	Commitment 2 of the 06/13/12 letter.	08/10/12	CLOSED	Completed 08/10/12 with submission of amendment request.
12	113636887	06/13/12	Commitment 4 of the 06/13/12 letter.	08/31/12	CLOSED	Completed 08/28/12 with development and performance of procedure.
13	113636972	06/13/12	Commitment 5 of the 06/13/12 letter.	08/31/12	CLOSED	Completed 08/28/12 with development and performance of procedure.
14	113637034	06/13/12	Commitment 6 of the 06/13/12 letter.	08/31/12	CLOSED	Completed 08/31/12 with completion of sensitivity analysis.
15	113637349	06/13/12	Commitment 7 of the 06/13/12 letter.	08/31/12	CLOSED	Completed 08/29/12 with issuance and performance of inspection procedure.
16	113637486	06/13/12	Commitment 10 of the 06/13/12 letter.	03/31/13	CLOSED	Completed 04/01/13. The modification was installed within the due date.
17	113637539	06/13/12	Commitment 11 of the 06/13/12 letter.	03/31/13	CLOSED	Completed 04/01/13. The caps were permanently installed near the penetrations within the due date.
18	113637788	06/13/12 04/29/13	Commitment 12 of the 06/13/12 letter.	07/19/13	COMPL	Completed 07/19/13 with submittal of letter, but the commitment package was signed out 2-3 months after the due date.



Item No.	SQN ID#	Commitment Letter Date	Summary of Commitment	Due Date	Status	Method of Closure
19	113637975	06/13/12	Commitment 13 of the 06/13/12 letter.	10/31/15	OPEN	
20	113638072	06/13/12	Commitment 14 of the 06/13/12 letter.	10/31/15	OPEN	
21	113638235	06/13/12	Commitment 15 of the 06/13/12 letter.	10/31/15	OPEN	
22	113638294	06/13/12	Commitment 16 of the 06/13/12 letter.	10/31/15	OPEN	
23	113646268	06/25/12 (NRC)	NRC Confirmatory Action Letter dated 06/25/12 requested, regarding commitment 6 of the 06/13/12 letter, that the licensee provides a summary of the results of TVA's analysis to the NRC within 60 days after its completion.	10/28/12	CLOSED	Completed 10/30/12 with submittal of letter to the NRC.
24	113646311	6/25/12 (NRC)	NRC Confirmatory Action Letter dated 06/25/12 requested NRC's NRR Director be notified in writing when the action in the CAL are completed.	10/31/15	OPEN	
25	114071645	10/26/12	An update of the planned ITS conversion application and ultimate heat sink LAR submittals and associated engineering activities to support shutdown board preventive maintenance effort will be included in the LAR submittal letter or by separate letter by 3/31/13.	03/31/13	COMPL	Completed with 03/28/13 submittal of letter.

Item No.	SQN ID#	Commitment Letter Date	Summary of Commitment	Due Date	Status	Method of Closure
26	114080689	10/30/12	TVA will evaluate breach initiators and submit a report summarizing the results of these evaluations by 01/18/13.	01/18/13	COMPL	Completed with 01/18/13 submittal of letter.
27	114498799	03/12/13	TVA will provide NRC a schedule of modifications to the SQN and WBN plants flood mode spool pieces by June 30, 2013 (extended to July 1, 2013).	06/30/13	CLOSED	Completed with submittal of 7/1/13 letter to NRC.
28	114498824	03/12/13	TVA will present a proposed methodology for spatial scenarios to the NRC by 06/30/413.	06/30/13	CLOSED	Commitment was completed on 06/27/13 with a meeting presentation. The commitment completion was signed on 07/02/13 and by a letter dated 07/02/13.
29	114498845	03/12/13	TVA will provide details of the planned drill to the revised flood mode operation abnormal operating procedure (AOP) N.03 by August 29, 2013.	8/29/13	CLOSED	Completed 08/29/13 with submittal of letter to NRC.
30	114498876	03/12/13	TVA will perform a drill to the revised flood mode operation abnormal operating procedure (AOP) N.03 by December 31, 2013.	12/31/13	COMPL	Completed on 10/03/13. An external drill report was done on 9/18/13.
31	114498918	03/12/13 05/29/13	TVA will provide the flooding hazard reevaluation report to the NRC by March 12, 2015.	03/12/15	OPEN	

Item No.	SQN ID#	Commitment Letter Date	Summary of Commitment	Due Date	Status	Method of Closure
32	114554032	03/28/13	Submit letter to NRC with updated status of ITS, UHS LAR, and Engineering activities supporting shutdown board preventive maintenance.	09/30/13	CLOSED	Completed with letter dated 09/30/13.
33	114615777	04/16/13	TVA will construct a flood mode hardened structure that will meet or exceed NEI 12-06 as described for Milestone 1 in the Table in Enclosure 1 of the commitment letter by June 2015 (Milestone 1 of Enclosure 1; Commitment 1 in Enclosure 2 is linked to this milestone).	06/30/15	OPEN	
34	114618058	04/16/13	TVA will install flood mode hardened 3.0 MWe Diesels (one per operating unit) designed to provide extended coping in accordance with NEI 12-06 guidance as described for Milestone 2 in the Table in Enclosure 1 of the commitment letter by December 2015. (Milestone 2 of Enclosure 1; Commitment 1 in enclosure 2 is linked to this milestone).	12/31/15	Open	

Item No.	SQN ID#	Commitment Letter Date	Summary of Commitment	Due Date	Status	Method of Closure
35	114618583	04/30/13	TVA will complete a comprehensive evaluation of commercial grade dedicated items installed between September 1995 and November 2011 for the operating fleet, and correct any identified deficiencies by December 31, 2014.	12/31/14	OPEN	
36	114618954	04/16/13	TVA will install a hardened enhanced flood mode system for decay heat removal as described for Milestone 3 in the Table in Enclosure 1 of the commitment letter by December 2016. (Milestone 3 of Enclosure 1; Commitment 1 in enclosure 2 is linked to this milestone).	12/31/16	OPEN	
37	114620131	04/16/13	TVA will install a hardened enhanced flood mode RCS makeup system as described for Milestone 4 in the Table in Enclosure 1 of the commitment letter by December 2016 (Milestone 4 of Enclosure 1; Commitment 1 in enclosure 2 is linked to this milestone).	12/31/16	OPEN	

Item No.	SQN ID#	Commitment Letter Date	Summary of Commitment	Due Date	Status	Method of Closure
38	114621526	04/16/13	TVA will provide periodic written updates to the NRC regarding progress of the improved flood mitigation system project by the last day of March. June. September and December of each year until the project is completed, beginning with the first written progress report to be filed by June 30, 2013 (Commitment 2 of Enclosure 2).	12/31/16	OPEN	
39	114751968	05/16/13	TVA will complete the review of the Safety Evaluation Report and document adherence to the Limitations and Conditions contained in Section 4.0 in the appropriate TVA calculations and design documents and will submit the results of this effort to NRC by June 20, 2014.	06/20/14	OPEN	
40	115088940	09/30/13	Submit letter to NRC with updated status of ITS, UHS LAR, and design activities supporting implementation of periodic shutdown board preventive maintenance.	03/28/14	OPEN	

Item No.	SQN ID#	Commitment Letter Date	Summary of Commitment	Due Date	Status	Method of Closure
41	115126899	09/30/13	TVA to address the RAI related to the review of the potential breaches of HESCO flood barriers and earthen embankments affecting the updated hydro analysis results with the Hazard Reevaluation Report. The due date for the HRR is 03/12/15.	03/12/15	OPEN	
42	115251669	04/30/13	TVA will provide the NRC with periodic written updates regarding progress of the project by the last day of July, October, January, and April of each year until the project is completed, beginning with the first written report to be filed by July 31, 2013.	12/31/14	OPEN	
43	NCO09000 3001	02/23/09	Commitment is related to NRC GL 2004-02.	TBD	OPEN	Due date being re-established.

January 29, 2014

Mr. Joseph W. Shea  
Vice President, Nuclear Licensing  
Tennessee Valley Authority  
1101 Market Street, LP 3D-C  
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SUBJECT: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 – AUDIT OF THE  
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Sincerely,

/RA/

Audrey L. Klett, Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
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