



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

July 3, 2014

LICENSEE: Tennessee Valley Authority

FACILITY: Sequoyah Nuclear Plant, Units 1 and 2

SUBJECT: SUMMARY OF CONFERENCE CALLS AND PUBLIC MEETINGS WITH THE TENNESSEE VALLEY AUTHORITY REGARDING IMPROVED TECHNICAL SPECIFICATIONS CONVERSIONS FOR SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 (TAC NOS. MF3128 AND MF3129)

On March 25, and April 3, 2014, conference calls were held between Nuclear Regulatory Commission (NRC) staff and representatives of the Tennessee Valley Authority (TVA or the licensee). Also, on February 20, March 13, March 25, April 24 and 30, May 7, 14, 21, and 28, 2014, Category 1 public meetings were held between the NRC and TVA staff. The purpose of the weekly conference calls and the public meetings was to discuss the ongoing review of the amendment requests for Sequoyah Nuclear Plant, Units 1 and 2 (SQN), to convert the technical specifications (TS) to the improved technical specifications (ITS) format. The enclosure contains lists of attendees. The questions discussed may be accessed through the SQN ITS public website at www.excel services.com, referred to in this summary as the Portal (on the website, scroll to the bottom and select the 'Sequoyah ITS Conversion' link).

Background

By letter dated November 22, 2013, TVA submitted a license amendment request (LAR) to revise SQN current TS to be consistent with the standard technical specifications for Westinghouse plants in accordance with NUREG-1431, "Standard Technical Specifications – Westinghouse Plants." A number of changes and revisions have been made to those standard TS, and this LAR seeks to update the SQN current TS to the ITS reflected in NUREG-1431, Revision 4. This version of the NUREG includes the adoption of recent Technical Specification Task Force (TSTF) travelers.

TVA has requested several beyond-scope changes as part of its ITS conversion (i.e., differences between the requested SQN ITS and the NUREG-1431 standard TS) making this review more complex than a simple conversion to the ITS format. The out-of-scope items in the request include several risk-informed initiatives, several notes delaying surveillance requirement performances, radiation detector engineered safety feature response time exclusion, and a significant change to the electrical systems section (i.e., ITS Section 3.8) to relax current licensing basis electrical requirements and facilitate shutdown board preventive maintenance without a dual unit shutdown. In addition, two separate licensing amendment requests are currently under NRC review that predicate portions of the ITS, (1) SQN Ice Condenser Ice Weight Change¹ and (2) Ultimate Heat Sink (UHS) Temperature Limitations Supporting Essential Raw Cooling Water Alignment Change.²

¹ Available in Agencywide Documents Access and Management System (ADAMS) under Accession No. ML13199A281.

² Available in ADAMS under Accession No. ML13280A267.

The more complex portion of the SQN ITS review involves TVA's need to change the current electrical systems technical specifications to allow performance of preventive maintenance on shutdown distribution electrical boards. This review, in addition to the UHS amendment, is needed to extend the allowed outage times for certain components so that TVA staff can perform the Shutdown Distribution Board maintenance without shutting down both units.

Summary of February 20, 2014, Meeting

TVA and NRC staff met following the NRC staff's acceptance of the LAR³ to discuss communications, use of the Excel Portal, schedules, and expectations. The TVA slides can be found at ADAMS Accession No. ML14050A120.

The staff discussed TVA's requested approval of the ITS amendment by November 2014, to support the Unit 1 plant conversion to ITS following its spring 2014 refueling outage. The NRC staff discussed the risk to TVA associated with relying on NRC staff to complete this review on a shortened timeframe. These concerns had previously been discussed during a conference call on January 15, 2014, with TVA staff. The ongoing Fukushima workload, shortages in certain skill areas, and the complexity of the SQN ITS review could preclude issuance of the ITS LAR review on the timeframe requested. However, to support the shortened review schedule, NRC staff suggested weekly public working group meetings with TVA staff to discuss ITS-related issues, clarify questions, status the review, and discuss open items in a public forum.

TVA staff agreed to weekly meetings and stated they were committed to providing NRC staff whatever the staff needed to review the ITS amendment and make a decision on the timeframe requested.

Summary of March 13, 2014, Public Meeting by Webinar

A public webinar was held on March 13 between NRC and TVA staff to discuss the SQN ITS electrical overview for Section 3.8. The TVA Electrical Presentation slides can be found at ADAMS Accession No. ML14071A152.

TVA discussed the purpose of the changes, the shutdown board maintenance, the SQN electrical design, the current electrical TS, and the proposed electrical ITS.

TVA requests an expedited review of the SQN ITS conversion, in part, to support performance of the 6.9 kiloVolt (kV) and 480 Volt (V) Shutdown Board preventive maintenance that has been delayed beyond the recommended timeframe for this preventive maintenance. This delay is because of the current TS requirement to shut down and cool down both SQN Units 1 and 2 to allow the shutdown board cleaning. TVA stated that to allow the shutdown board maintenance without a dual unit outage, the UHS amendment needs to be issued, the plant auxiliary control air system needs to be modified, and the ITS need to be implemented.

The staff asked several clarifying questions and discussed a concern associated with the plant coping time for the loss of residual heat removal capability upon the loss of the single shutdown board during performance of the shutdown board maintenance. The NRC staff stated it would post the question to the Portal (GMW-004).

³ Available in ADAMS under ML14037A148

Summary of March 25 2014, Public Meeting by Webinar

TVA staff requested that the status of the original three questions posted to the Portal (GMW-001, GMW-002, and GMW-003) be changed to closed, if the NRC staff is satisfied with the answers. NRC staff stated they would be closed but that more probabilistic risk assessment questions would be posted.

The NRC and TVA staff discussed the ITS review process concerning out-of-scope items and the need for technical branch reviews outside of the Technical Specifications Branch (STSB) for out-of-scope items. However, the NRC staff clarified that for some risk-related reviews, there would be in-scope ITS items that would still require technical branch reviews outside of the Technical Specifications Branch (e.g., TSTF-500, Revision 2, *DC Electrical Rewrite - Update to TSTF-360*).

The NRC staff informed TVA staff that the SQN ITS conversion is complex and the approval date requested by TVA is at risk due to resource shortages at the NRC. The critical knowledge and resource shortages at the NRC are due to attrition and the heavy Fukushima workload. The NRC staff stated it would work towards TVA's requested approval date, however, this would be a very difficult timeframe for success. The NRC staff stressed that timely, quality, and complete responses from TVA staff would be critical to success. The TVA staff stated they were committed to responding within the 2-week timeframe suggested in the NRC ITS guidance (LIC-601, *Improved Technical Specification Conversion Amendment Review Procedures*).

Summary of April 3 2014, Public Meeting by Webinar

The purpose of this conference call was to further discuss staff concerns with the SQN ITS conversion schedule, understand TVA priorities and schedules, and come up with a mutually agreeable path forward. The goal was to determine dates for major decision points to provide TVA enough time to prepare a backup plan if the staff identifies significant issues or the review does not progress on a schedule commensurate with issuance on the timeframe requested by TVA.

The NRC staff suggested that the number and complexity of beyond scope items included in the ITS, as well as the independently submitted amendments needed for implementation of the ITS are well beyond the original intent of the ITS conversion. The intent is to allow licensees to change the format of the TS to a standard format. The NRC staff suggested that perhaps removal of the out-of-scope electrical portions into an independent amendment could allow the staff to complete the ITS on the timeframe requested by TVA.

TVA staff stated that the ITS conversion amendment is their highest priority due to the operator ITS training scheduled and TVA's intent to convert to ITS following the spring 2015 outage in Unit 1. TVA staff stated that the shutdown board maintenance is not the main driver for the ITS conversion. TVA stated they are open to modifying the electrical section as suggested, but they are confident they can answer staff's questions in a timely manner. TVA stated that if the NRC staff still has significant concerns and open items associated with the electrical review at the end of August 2014, it would consider the NRC staff suggested modification to the ITS review.

The NRC staff agreed to work toward having all significant ITS questions posted by the end of May to allow time for TVA staff to provide answers and to allow time for a decision before the end of August deadline.

Further, TVA stated that the amendment issuance date for the ITS conversion could be as late as February 27, 2015, to allow TVA to plan for conversion following the spring 2015 Unit 1 refueling outage.

Summary of April 24, 2014, Public Meeting by Webinar

The licensee's responses to GMW-001 and GMW-002 are acceptable to the NRC staff; the questions will be closed.

NRC staff will post a new question to the Portal regarding the solid state protection system cards for reactor coolant pump under frequency trip (KAB001).

Concerning TSTF-400, Revision 1, *Clarification of Surveillance Requirement on Bypass of Noncritical DG [diesel generator] Automatic Trips* (GMW-003), the NRC staff suggested that the licensee refer to Peach Bottom's adoption of TSTF-400 for precedence. Specifically, Peach Bottom included critical trip testing in their Updated Final Safety Analysis Report (UFSAR).

Question GMW-004 concerns the limiting condition where one unit is operating, or in hot standby (Modes 1 – 4) and the other unit is shut down (Modes 5 or 6), and one of the two 6.9 kV shutdown boards in the shutdown unit is inoperable due to loss of offsite power and an inoperable diesel generator. In the proposed ITS, this condition is allowed for up to 7 days and is necessary to allow maintenance of the 6.9 kV shutdown boards (takes 7 days). The NRC staff is concerned that a single failure can occur (e.g., electrical fire in the operable 6.9 kV shutdown board) causing a loss of both shutdown boards supplying power to safety functions on the shutdown unit. While current SQN TS recognize a similar scenario, there is a high probability that the train undergoing maintenance can be readily restored to operable within 4 hours – consistent with the SQN station blackout analysis. However, under the proposed ITS, the shutdown board undergoing maintenance may not be quickly recoverable, resulting in the loss to safety loads exceeding the 4-hour coping time. SQN has not been analyzed for station blackout conditions beyond the 4-hour coping time. Additionally, the NRC staff is concerned that since the maintenance on the 6.9 kV shutdown boards has been delayed for 10 to 12 years beyond the Electric Power Research Institute recommendation, they may be more prone to failure during the maintenance. The NRC staff stated that a detailed explanation, possibly including updated plant coping analysis, is necessary for the staff to complete its review because of this unique plant configuration. TVA staff requested clarification to part d) of this question and NRC staff agreed to clarify the staff's concerns.

Summary of April 30, 2014, Public Meeting by Webinar

For the question on the solid state protection system cards for reactor coolant pump under frequency trip (KAB001), TVA staff stated that the cards have not been changed and that the response times are correct. TVA will post this response to the Portal.

A new question was added to the Portal (GMW-006) in response to a request to clarify part d) of GMW-004. Further discussion between the NRC and TVA staff did not resolve the NRC staff's

concerns. Specifically, TVA staff stressed that current TS allow one operable residual heat removal pump if the shutdown plant loops are filled and with the steam generators greater than 21 percent on the narrow range level instruments, or the refueling cavity water level is greater than 23 feet above the top of the reactor vessel flange during movement of irradiated fuel. TVA stated that this condition is recognized in current SQN licensing basis and that if a single failure occurs, TVA staff would then enter abnormal operating procedures. The NRC staff stated that TS 3.4.7 Action Statement requires that "immediate actions" are to be taken to restore the inoperable shutdown board, which does not appear likely if the shutdown board maintenance is occurring at the time of the single failure. A working group public meeting was suggested by TVA staff to see if face-to-face discussions on this topic would facilitate resolution of the NRC staff's concerns.

Summary of May 7, 2014, Public Meeting by Webinar

Question KAB-009 was discussed; TVA stated this was not an intentional change and will respond in the Portal with the correction.

The NRC staff discussed with TVA staff the fact that TS 3.2 is not in alignment with the standard technical specifications, but is a blend of SQN's current TS and ITS. The non-standard portions will have to be reviewed outside of STSB and could impact the schedule. TVA staff stated that the portions of the TS that are plant-specific are more restrictive than ITS and eliminate some flexibilities provided in the ITS. NRC staff stated that questions would be posted to the Portal to facilitate future discussions.

Concerning question CSS-002, TVA is not changing TSTF-427, "Allowance for Non-Technical Specification Barrier Degradation on Supported System OPERABILITY," and will note so in the discussion of changes for this section. Enclosure 8 contains the commitment list with commitments 7 and 8 applicable to TSTF-427. TVA will respond to the question on the Portal.

The NRC staff stated that Surveillance Requirement 3.7.4.1 (Section 3.7.4 "Atmospheric Relief Valves") does not appear to be adopting the standard TS. TVA staff needs to provide more justification for why ITS was used instead of a set frequency or frequency control program. A question will be posted to the Portal.

A working group public meeting was scheduled for Thursday, May 15, to discuss electrical lineup conditions during the 9.6 kV and 480 V shutdown board maintenance (question GMW-003 and GMW-006). TVA stated that a presentation for this meeting will be provided to NRC staff by Monday, May 12.

Summary of May 14, 2014, Public Meeting by Webinar

The following RAI questions were discussed:

- KAB016 – TVA asked for a clarification on this question. The NRC staff clarified the need for an explanation of why the surveillance frequency proposed is 18 months vs. 92 days (in Standard TS). TVA will post a response on the RAI database.
- KAB022 – TVA clarified this question for NRC and will post the response.

- KAB023 – Prior LAR submittal did not adequately address Mode-2 condition. This is beyond the scope of standard ITS review and requires additional review by other technical branches.
- KAB036 – Clarification given to TVA regarding TS Bases vs. TS. Because TS Bases are not requirements, the TS needs to be changed.
- KAB038 – The NRC staff clarified TVA needed to describe the instrumentation reliability or use alternative NUREG.
- The staff asked TVA to clarify the diagrams in TS 3.3 regarding Logic in steam generator low-low level and Environmental. TVA will provide a diagram.
- RPG-003 – Since questions were just posted, it will be discussed next meeting.
- GMW-006 – TVA has not posted a response to this question because they were waiting to discuss at the face-to-face meeting on May 22, 2014.
- Matthew Hardgrove asked TVA to explain ITS 3.2.1 LA03 (page 6 of 249 in ITS 3.2). TVA said that the calculations were moved to TS Bases and Core Operating Limits Report (COLR). SQN Unit 1 COLR starts on page 614 of 651 in the Current TS for Unit 1. Also, the TS is listed in TS 5.0, Administrative Controls. UFSAR is in the disk submitted to NRC on February 20, 2014. Hardgrove will go over these documents and submit RAs if necessary.
- Carl Schulten – ITS 3.6 TVA has deviated from the Topical Report in TSTF-446 in ITS 3.6. TSTF-446 is not adopted as presented, and may be a beyond-scope item requiring further review by a technical branch. TVA maintains that it should not be BSI because it is part of the Standard TS (NUREG-1431). Questions may be posted to TVA later in the week.
- Probabilistic Risk Assessment (PRA) questions were expected last week, but APLA Branch requested more time to go through branch concurrence process. They are expected to submit questions to be posted by the end of this week of May 16, 2014.

Summary of May 21, 2014, Public Meeting by Webinar

Questions were asked about TSTF-490, "Deletion of E Bar Definition and Revision to RCS [Reactor Coolant System] Specific Activity Technical Specification," which is a non-standard TS adoption. NRC staff will post questions to the Portal. TVA staff clarified that it is using TSTF-490, Revision 1, versus Revision 2.

TVA and NRC staff discussed questions CSS-013, KAB-004, KAB-005, KAB-038, and KAB-045.

NRC staff asked for clarification concerning the auxiliary building gas treatment system instruments and if either instrument could be used for either train. TVA stated that each instrument is specific to the train, and they are not interchangeable. NRC staff stated that the note associated with Limiting Condition for Operation 3.7.2 appears inconsistent with ITS and that the NRC staff will post a question to the Portal.

NRC staff stated that for TSTF-446, "Risk Informed Evaluation of Extensions to Containment Isolation Valve Completion Times (WCAP-15791)," it appears that SQN has included both generic PRA analysis methods and plant-specific input to the approved methodology. TVA staff stated that this is the case, that Enclosure 5 of the ITS submittal provides the analyses, and identifies where it is generic and where it uses plant-specific parameters.

Summary of May 28, 2014, Public Meeting by Webinar

KAB015 – The staff provided clarification requested by TVA. TVA will post a response.

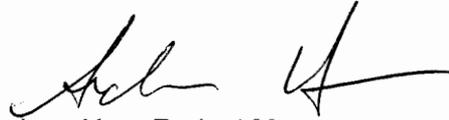
Project Status Update:

- PRA questions are coming soon.
- RAIs for all TS sections should be finished by June 30, 2014, with most of them in by June 13, 2014.
- LARs such as the Ice Condenser (TAC MF2446) and Ultimate Heat Sink Temperature Limits (TAC MF2852) that are tied to ITS have expected completion dates at the end of the year. Both TVA and the NRC staff will watch their progress in order to keep the ITS timing. Related sections may need to be removed from the ITS scope if they significantly impact the ITS schedule.

No commitments or regulatory decisions were made by the NRC staff during the call or meetings.

Members of the public were not in attendance. Public Meeting Feedback forms were not received.

Please direct any inquiries to me at 301-415-8480, or by email to Andrew.Hon@nrc.gov.

A handwritten signature in black ink, appearing to read 'Andrew Hon', with a stylized flourish extending to the right.

Andrew Hon, 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:
List of Attendees

cc w/encl: Distribution via Listserv

LIST OF ATTENDEES
U. S. NUCLEAR REGULATORY COMMISSION (NRC)
PUBLIC MEETINGS AND CONFERENCE CALLS
WITH TENNESSEE VALLEY AUTHORITY (TVA),
REGARDING CONVERSION TO IMPROVED STANDARD
TECHNICAL SPECIFICATIONS FOR SEQUOYAH NUCLEAR PLANT

February 20, 2014, Public Meeting

NRC

Jake Zimmerman
Lisa Regner
Khadijah Hemphill
John Thorp
Kristy Bucholtz
Rob Elliott
Ravi Grover
Steve Wyman
Jonathan Evans
Matthew Hamm
Tim Lupold
Carl Schulten
Vijay Goel
Gerry Waig

TVA

Mike McBrearty
Ray Schiele
Lynn Mynatt
Scott Bowman
Michelle Conner
Gary Garner
Roger Scott

March 13, 2014, Public Meeting

NRC

Lisa Regner
Khadijah Hemphill
Vijay Goel
Gerry Waig

TVA

Michelle Conner
Scott Bowman
Lynn Mynatt
Ray Schiele
Mike McBrearty
Ed Schrull

March 25, 2014, Conference Call

NRC

Lisa Regner
Khadijah Hemphill
Vijay Goel
Gerry Waig

TVA

Michelle Conner
Scott Bowman
Lynn Mynatt
Ray Schiele
Mike McBrearty
Ed Schrull

April 24, 2014, Public Meeting

NRC

Lisa Regner
Khadijah Hemphill
Carl Schulten
Gerry Waig
Vijay Goel

TVA

Michelle Conner
Scott Bowman
Lynn Mynatt
Ray Schiele
Mike McBrearty
Ed Schrull

April 30, 2014, Public Meeting

NRC

Lisa Regner
Khadijah Hemphill
Carl Schulten
Gerry Waig
Vijay Goel
Steve Wyman

TVA

Michelle Conner
Scott Bowman
Lynn Mynatt
Ray Schiele
Mike McBrearty
Ed Schrull

May 7, 2014, Public Meeting

NRC

Lisa Regner
Andy Hon
Khadijah Hemphill
Carl Schulten
Gerry Waig
Vijay Goel

TVA

Michelle Conner
Scott Bowman
Lynn Mynatt
Ray Schiele
Mike McBrearty
Ed Schrull

May 14, 2014, Public Meeting

NRC

Lisa Regner
Andy Hon
Khadijah Hemphill
Carl Schulten
Kristy Bucholtz

TVA

Michelle Conner
Scott Bowman
Lynn Mynatt
Ray Schiele
Mike McBrearty

May 21, 2014, Public Meeting

NRC

Lisa Regner
Kristy Bucholtz
Greg Casto
Gordon Curran
Ravi Grover
Carl Schulten
Gerry Purciarello
Gush Singh

TVA

Mike McBrearty
Lynn Mynatt
Michelle Conner
Scott Bowman
Jerry Deal
Debbie Shannon
Gerry Kindred
Roger Scott
Ray Schiele

May 28, 2014, Public Meeting

NRC

Andy Hon
Khadijah Hemphill
Kristy Bucholtz
Gordon Curran

TVA

Mike McBrearty
Lynn Mynatt
Michelle Conner
Scott Bowman
Jerry Deal
Roger Scott
Ray Schiele

No commitments or regulatory decisions were made by the NRC staff during the call or meetings.

Members of the public were not in attendance. Public Meeting Feedback forms were not received.

Please direct any inquiries to me at 301-415-8480, or by email to Andrew.Hon@nrc.gov.

/RA/

Andrew Hon, 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:
List of Attendees

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Meeting Summary Accession No.: ML14162A279

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