



Sequoyah Units 1 and 2 License Amendment Request to Revise SR 3.4.14.1 Reactor Coolant System Pressure Isolation Valves Leakage Testing Frequency

November 7, 2024



Introduction

- Tennessee Valley Authority (TVA) is submitting a license amendment request (LAR) for the following:
 - Sequoyah Nuclear Power Plant (SQN), Units 1 and 2 Renewed Facility Operating License Nos. DPR-77 and DPR-79
- LAR applies to Technical Specification (TS) Surveillance Requirement (SR) 3.4.14.1 “Reactor Coolant System (RCS) Pressure Isolation Valve (PIV) Leakage,” for both SQN Units 1 and 2
- Proposed revisions would revise SR 3.4.14.1 to reference only the Inservice Testing (IST) Program for the performance Frequency

Background

- SQN Unit 2 entered the U2R26 refueling outage approximately 53 days earlier than scheduled
 - U2R26 refueling outage was originally scheduled to commence September 27, 2024
 - Recovery from Unit trip on July 30, 2024, requires a significant repair of the turbine generator
 - Projected forced outage duration resulted in decision to start U2R26 refueling outage on August 5, 2024
 - U2R26 refueling is completed and SQN Unit 2 is currently holding in Mode 5 until turbine generator repair efforts are completed
 - Target date for turbine generator repair is second quarter of 2025

Background

- SQN Unit 2 evolutions during the extended forced outage include:
 - Move plant from Mode 5 to Mode 2 to perform low power physics testing and surveillances projected in January 2025
 - SQN TS requires performance of SR 3.4.14.1 during ascension to Mode 2
 - Return to Mode 5 and hold until turbine generator is repaired
 - TS requires partial performance of SR 3.4.14.1 again during plant return to power

Reason for Proposed Change

- RCS PIV leakage testing is required by ASME OM Code and implemented by IST Program
- Current TS SR 3.4.14.1 requires repeating testing that has been previously completed on those valves that will be exercised open upon return to Mode 5
- Proposed change would align SQN SR 3.4.14.1 frequency with the requirements of the ASME OM Code and eliminate need for repetitive testing
- Eliminating repetitive RCS PIV testing would lower current and future outage personnel dose and reduce outage schedule time
 - Test is conducted using RCS pressure and requires system manipulations with multiple entries into LCOs, often on or close to critical path
 - Performance of SR 3.4.14.1 testing poses personnel safety risks due to system configuration and method of RCS leakage measurement

Description of the Proposed Change

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.14.1</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> Not required to be performed in MODES 3 and 4. Not required to be performed on the RCS PIVs located in the RHR flow path when in the shutdown cooling mode of operation. RCS PIVs actuated during the performance of this Surveillance are not required to be tested more than once if a repetitive testing loop cannot be avoided. Not required to be performed for RCS PIVs FCV-74-1 and FCV-74-2 following manual or automatic actuation or flow through the valves. <p>-----</p> <p>Verify leakage from each RCS PIV is equivalent to ≤ 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm at an RCS pressure ≥ 2215 psig and ≤ 2255 psig.</p>	<p>In accordance with the Inservice Testing Program, and</p> <p>In accordance with the Surveillance Frequency Control Program.</p> <p>AND</p> <p>Prior to entering MODE 2 whenever the unit has been in MODE 5 for 7 days or more, if leakage testing has not been performed in the previous 9 months</p> <p>AND</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
	<p>Within 24 hours following valve actuation due to automatic or manual action or flow through the valve</p>

Description of the Proposed Change

- Frequency for SQN Units 1 and 2, SR 3.4.14.1, is replaced with "In accordance with the Inservice Testing Program"
 - Proposed changes would not add or remove any RCS PIVs from the TS or ASME OM Code requirements or alter the SR acceptance criteria
 - Proposed changes are consistent with TSTF-600 which is undergoing NRC review
- TVA will confirm, prior to LAR submittal, that the RCS PIV testing Frequencies being removed from the TS are not credited for satisfying any requirements described in the UFSAR or any commitments for reasons other than being a TS requirement

Technical Evaluation

- RCS PIVs within the scope of this request are listed in SQN Units 1 and 2 TS Bases Table B3.4.14-1
- The test history for the SQN valves subject to PIV testing have shown good performance
 - PIV test performance history will be included with the license amendment request
- Leakage testing of the RCS PIVs at the frequency established by the IST Program is satisfactory for determining valve integrity as it relates to operational readiness

Precedents

The following precedents are similar to the proposed license amendment request for SQN Units 1 and 2

- Duke Energy license amendment request approved in October 2023 (ML23241A987)
- Vogtle Units 1 and 2 license amendment request approved in April 2024 (ML24030A909)

Schedule for Submittal

- TVA plans to submit expedited license amendment request to NRC by November 22, 2024
- Request NRC approval by February 28, 2025
- LAR to be implemented within 30 days of NRC approval

TVA

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