Watts Bar Nuclear Plant (WBN)

Unit 2 Replacement Steam Generator (RSG) Project
Planned License Amendment Requests (LARs)
LAR Descriptions and Submittal Schedule Meeting

December 15, 2020

Agenda

- Opening Remarks
- Background
- Scope of Individual LARs
- Schedule for LARs to support WBN Unit 2 RSG Outage
- Questions and Discussion
- Closing Remarks

Opening Remarks

- The purpose of this meeting is to discuss, for purposes of scheduling, the four LARs that are planned to support the WBN Unit 2 RSG Project.

- This meeting is intended only to inform the NRC of the planned content and schedule for the LARs. LAR pre-submittal meetings will be conducted at a later date.

Background

- Currently, TVA is scheduled to replace the WBN Unit 2 Alloy-600 steam generators with Alloy-690 RSGs during the WBN Unit 2 Fall 2023 refueling outage (U2R5). TVA is currently evaluating whether to move this activity to the Spring 2022 refueling outage (U2R4).

- The RSGs have been manufactured and delivered to the WBN, where the RSGs have been placed in protected storage until they are prepared for installation just prior to the RSG outage.

- Four separate LARs are planned to support this activity. For the RSG components, the LARs are similar in nature to those done for the WBN Unit 1 SG replacement project.

WBN-TS-20-04 – SG Tube Rupture (SGTR) Accident Dose Design Basis Change

- SGTR accident dose increase requires prior NRC approval.
- Based on similar WBN Unit 1 RSG Project LAR for same RSG design where a greater than 10% accident dose increase was identified for SGTR.
- Design basis change is to UFSAR Table 15.5-19, doses from SGTR. Inputs to UFSAR Table 15.5-18 also change.

WBN-TS-20-05 – SG Water Level Changes for RSGs

- Change in SG Water Level span from 5% to 32% [WBN Unit 2 Technical Specification (TS) 3.4.7.b and TS Surveillance Requirements (SRs) 3.4.5.2, 3.4.6.3, and 3.4.7.2].

- Based on similar WBN Unit 1 RSG Project LAR TS changes for the same design RSGs – No resultant differences in TS values between WBN Unit 1 and Unit 2.

- As was the case for the Unit 1 RSGs, the TS change accommodates location of the tube bundle within the SG, and the SG instrument tap locations in relation to TS surveillances and water coverage levels of the tube bundle to ensure SG functionality is maintained for heat removal (primary to secondary side).

WBN-TS-20-06 – SG Program Changes

- Change from Alloy 600 old SGs to Alloy 690 RSGs requires removal of inspection/repair provisions that are only applicable to Alloy 600:
  - F* SG Tube Inspection Method
  - Voltage-Based Alternate Repair Criteria (ARC) SG Tube Inspection Method
  - SG Tube Sleeving Repairs
- Revises WBN Unit 2 TS 3.4.17, 5.7.2.12, and 5.9.9 to remove requirements that are no longer applicable when the SGs are replaced.
- Deleting allowance to use PAD4TCD to establish core operating limits from License Condition 2.C.(4) in WBN Unit 2 Facility Operating License (PAD4TCD usage applies only to old steam generators).

WBN-TS-20-07 – Change to Unit 1 TS 3.7.12 to facilitate use of Temporary Auxiliary Building Secondary Containment Enclosure (ABSCE) Door during U2 RSG Outage

- One-Time Exception applicable only during the Unit 2 RSG Outage and is designed in order to maintain ABSCE boundary functionality for Unit 1 and the Auxiliary Building.

- Essentially the same operative TS as the current Unit 1 TS 3.7.12 – the key difference is that ABSCE boundary is proposed to be allowed to be maintained open during the RSG Outage, versus the “Intermittent” opening of the ABSCE boundary currently permitted by Unit 1 TS 3.7.12.

Schedule for LARs to support WBN Unit 2 RSG Outage

- Pre-submittal meeting (all four LARs) – January 21, 2021
- Submit LARs no later than March 1, 2021
- Request NRC approval within 1 year of submittal depending on schedule for SGR Project

CLOSING REMARKS


TVA