

Pre-Submittal Meeting – Relief Request 71 – Resubmission of Relief Request 30

July 12, 2024



Agenda

- Introduction
- Background
- Code Requirements
- Alternative Requirements
- Alternative Justification
- Duration of Proposed Alternatives
- Schedule



Background

- RR30 was approved November 2004 for Palo Verde Units 1, 2, & 3.
- This RR was to allow a greater diametral clearance (cMAX) between replacement pressurizer heater sleeves and the heater sheaths as specified by Code Case 1361-2.
- The RR was originally approved for the remainder of plant life: prior to seeking license extension.



Code Requirements

 ASME Section III, Sub-Section NB-3356, Code Case 1361-2 specifies a diametral clearance (cMAX) of 0.045 in. between the pressurizer heater sleeves and heater sheaths.



Alternative Requirements

- Palo Verde replaced the original Alloy 600 pressurizer heater sleeves with Alloy 690 sleeves in the fall refueling outages of 2003 (Unit 2), 2004 (Unit 3), and 2005 (Unit 1).
- It was determined that the diametral clearances between the replacement Alloy 690 pressurizer heater sleeves and the heater sheaths may be as great as 0.062 inch.
- Therefore, pursuant to 10 CFR 50.55a(a)(z)(1) APS proposes an alternative of 0.062 inch in lieu of the 0.045 inch cMAX diametral clearance specified in Code Case 1361-2.



Alternative Justification

- Original Evaluation
 - Structural Integrity Associates evaluated the stresses on the fillet weld with a diametral clearance of 0.062 inches (0.055-inch nominal)
 - The results of the SI evaluation demonstrate compliance with the ASME Code NB-3220 allowables for Primary Membrane, Primary Membrane plus Bending, Primary plus Secondary and Fatigue stresses.
 - The SI evaluation considered a 60-year life in the original stress analysis.



Alternative Justification

- Updated Evaluation
 - All original analysis from SI is still valid (previous slide)
 - An Environmentally Assisted Fatigue (EAF) screening is required for RCS pressure boundary components monitored for fatigue for license extension commitments.
 - Environmentally Assisted Fatigue (EAF) analysis by SI identified the bounding components that must be managed for EAF during the period of extended operation.
 - Analysis concluded that all components in the specified thermal zone -including the heater sheath to sleeve weld remain within EAF limits through 60 years of operation.



Duration of Proposed Alternatives

- The proposed alternative is requested to continue through initial license extension for PVNGS Units 1, 2, and 3.
 - These dates are (midnight of)
 - Unit 1: June 1, 2045
 - Unit 2: April 24, 2046
 - Unit 3: November 25, 2047



Schedule

- APS is planning to submit in July 2024
- NRC Approval is requested by May 2025.



