



Proposed IWL Inspection Alternative Relief Request 67 – Pre-submittal Meeting

Palo Verde Nuclear Generating Station (PVNGS)

June 16, 2021

Agenda

- Introduction
- Relief Request Summary
- Current Requirements
- Alternative Requirements
- Alternative Justifications
- Duration of Proposed Alternatives
- Precedents
- Schedule



Relief Request Summary

- Reason for the request:
 - The alternative modified schedule proposed will reduce resources required and safety risks associated with performing the exams while still providing reasonable assurance the containment post-tensioning systems will continue to perform their function.



Relief Request Summary

- ASME BPV Section XI, Subsection IWL requires certain scheduling frequencies and specific tests of post-tensioning system tendons
- APS is seeking a relief request in accordance with 10 CFR 50.55a(z)(1)
 - Units 1 and 3: Alternatives are being requested from IWL-2520 ten year surveillance scheduling requirements
Unit 2 will be addressed in a subsequent submittal after the next surveillance is completed in Dec 2021 / Jan 2022.
 - Units 1, 2, and 3: Alternatives are being requested from certain IWL-2523 tendon wire and strand testing



Current Requirements

- IWL-2421 - PVNGS Units 1, 2, and 3 are currently using the alternative scheduling requirements of IWL-2421(b):
 - (1) For the containment with the first structural integrity test, all examinations required by IWL-2520 shall be performed at 1, 3, and 10 years, and every 10 years thereafter. In addition, the examinations required by IWL-2524 and IWL-2525 shall be performed at 5 and 15 years, and every 10 years thereafter.
 - (2) For each subsequent containment constructed at the site, all examinations required by IWL-2520 shall be performed at 1, 5, and 15 years, and every 10 years thereafter. In addition, the examinations required by IWL-2524 and IWL-2525 shall be performed at 3 and 10 years, and every 10 years thereafter.



Current Requirements

IWL-2523.1

- Requires tendon detensioning and wire sample removal, as follows:
 - *One sample tendon of each type shall be completely detensioned. A single wire or strand shall be removed from each detensioned tendon.*

IWL-2523.2

- Requires that tension tests be performed on each removed wire or strand, as follows:
 - *Tension tests shall be performed on each removed wire or strand: one at each end, one at mid-length, and one in the location of the most corroded area, if any. [...]*



Alternative Requirements - IWL-2421

- Units 1 and 3:
 - (1) For the containment with the first structural integrity test, all examinations required by IWL-2520 shall be performed every 20 years thereafter.
 - (2) For each subsequent containment constructed at the site, all examinations required by IWL-2520 shall be performed every 20 years thereafter.

NOTE: Unit 2 is currently excluded from this scheduled alternative, and is planned to be addressed in 2022 after the next scheduled Unit 2 surveillance is completed.



Alternative Requirements –IWL-2523.1 and IWL-2523.2

- For Units 1, 2, and 3:
 - IWL-2523.1: Detension a tendon and remove a single wire for examination only if a tendon anchorage visual examination in accordance with IWL-2524 detects a loss of wires in excess of that permitted by the design, or if required as a result of an engineering evaluation
 - IWL-2523.2: Eliminate tension testing to determine the yield strength, ultimate tensile strength, and elongation of tendon wires. Visual examinations shall continue to be performed when detensioning is required.



Alternative Justifications

- Previous IWL examination results indicate excellent performance of the post-tensioning system.
- Tendon Force trendlines indicate tendons for Units 1 and 3 will remain above the minimum required value beyond the next alternative scheduled surveillance (Code requirement), and even beyond 100 years from initial tensioning.



Duration of Proposed Alternatives

- The proposed alternatives are requested for the third and subsequent intervals until the end of PVNGS plant life.



Precedents

- Millstone Power Station, Unit 2 [ML20287A471]
- Vogtle Electric Generating Plant, Units 1 and 2 [ML19182A077]
- Three Mile Island Nuclear Station, Unit 1 [ML19226A023]



Schedule

- Planning to submit in early July 2021
- NRC approval requested in June 2022

