



Response to NEI Follow Up Comments on Structures

**Office of Nuclear Reactor Regulation
Division of License Renewal
June 16, 2016**

IWE: Liner Bulges

Industry Comment

Bounding liner bulges beyond that accounted for in design calculation-of-record are identified and evaluated. Need to understand how the bulges will be identified and evaluated.

Staff Response

Identification: Initial identification by general visual in accordance with IWE, and bounding bulges potentially exceeding acceptance criteria are characterized for evaluation by appropriate refined techniques such as laser scans and/or other methods.

Evaluation: Evaluated in accordance with design-basis requirements and procedures in CLB (FSAR, code-of-record, calculation-of-record), which includes accounting for inward curvature between anchors to concrete, and may use finite element analysis and plastic design methods.

Requirements and procedures for liner-plate system design including curvature variations are included in ASME Code Section III, Division 2; and Topical Reports BC-TOP-1 & BC-TOP-5A.

IWE: Liner Bulges

Summary of Staff Recommendations

No change to XI.S1

IWF: Additional 5% of Supports

Industry Comment

Additional 5% of sampled number of IWF supports (it is only an additional 5% of the sampled number not the whole population). NRC will reconsider ASME Code and CAP provisions for expanding scope and determining extent of condition when deficiencies are identified. SLRA operating experience expected to identify when IWF examinations require expansion per Code or program requires changes to remain effective

Staff Response – The Staff agrees with this comment in part

IWF: Additional 5% of Supports

Technical Basis

The staff's basis for the additional inspections was (1) ensure that the AMP is bounding of the susceptibility of components for age-related degradation; and (2) inspect components that have never been inspected to provide assurance that the program has been effective (i.e., age-related degradation is not occurring beyond what has been identified and addressed through IWF implementation to date). Revised recommendation addresses both objectives

Summary of Staff Recommendations

Revise AMP to perform one-time inspection of additional minimum 5% of sampled number of component supports, selected at random but evaluated to ensure that the expanded sample includes all materials, environments and anticipated aging effects

IWF: Bolts

Industry Comment

All IWF bolts do not require visual inspection (previously clarified) – only those on sampled supports. It was recognized that A325 bolts will not reach 150 KSI actual yield and therefore should be excluded from volumetric examination. NRC to reconsider volumetric exam of A490 bolts based on input and points Industry raised

Staff Response – The Staff agrees with this comment in part

Technical Basis

SCC is a credible aging effect for all high-strength bolts (actual measured yield strength greater than or equal to 150 ksi or 1034 MPa) in sizes greater than 1 inch diameter in susceptible environments. Plant-specific justification may be used to waive this recommendation

Summary of Staff Recommendations

Clarify wording in AMP and remove specific mention of A325 bolts

Underwater Concrete Inspections

Industry Comment

Underwater concrete inspections required every 5 years even in raw water that is not aggressive. NRC to reconsider our points

Staff Response – The Staff does not agree with this comment

Technical Basis

In general, the Staff does not consider submerged concrete inaccessible. The guidance allows for longer intervals or inspection approaches as long as it is described and justified in the SLRA.

Summary of Staff Recommendations

No change to AMP XI.S7

Appendix J: Requirement to Identify Other SLR AMPs

Industry Comment

Deletion of the requirement to identify other SLR AMPs for Type C components that are not managed for aging by AMP XI.S4 requires additional discussion... None of the mechanical AMR lines in the SLR-GALL credit 10 CFR 50 Appendix J as an aging management program

Staff Response – The Staff does not agree with this comment

Technical Basis

This provision ensures that aging effects for all penetrations are adequately managed

Summary of Staff Recommendations

No change to XI.S4

QUESTIONS?