



# Preliminary Proposed 10 CFR 50.55a Rule Language for a Condition on Operational Leakage

# NEI Presentation (Tom Basso – NEI)



- Introductions and Overview
- ASME BPV Section XI Scope and Application
- NEI 18-03 Operability Determination - Flaw Evaluation/Operational Leakage
- Applicability to 10 CFR 50.69 RISC-3
- Backfit Rule Review

# Pressure Boundary Leakage

## ASME BPV Section XI Role

# ASME - Pressure Boundary Leakage

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## ***ASME BPV Section XI***

Boiler & Pressure Vessel Code (BPV), Section XI, 2017 Edition

- IWA-1100, Scope  
“This Division provides requirements for inservice inspection and testing of light-water-cooled nuclear power plants.”
- IWA-3100, Evaluation  
“(a) Evaluation shall be made of flaws detected during an inservice examination as required by Article IWx-3000.”
- IWA-3300, Flaw Characterization  
“(a) Flaws detected by the preservice and inservice examinations shall be sized...”
- IWA-4110, Repair/Replacement Scope  
“(a) The requirements of this Article apply regardless of the reason for the repair/replacement activity or the method that detected the condition requiring the repair/replacement activity.”

# ASME - Pressure Boundary Leakage

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## **ASME BPV Section XI**

- ASME “Requirement” Interpretations

- XI-1-89-67

*Question: Is it a requirement of Section XI that additional examinations be performed for flaws detected outside the course of an inservice examination...?*

*Reply: Section XI does not address additional exams for flaws detected outside the course of an inservice examination.*

- XI-1-92-03

*Question: Do the provisions of IWA-5250 apply to leakage found at times other than during a system pressure test?*

*Reply: No.*

- XI-1-92-19

*Question 2: Does leakage identified during the conduct of normal plant operation, but not in conjunction with a Section XI required pressure test, require corrective measures in accordance with IWA-5250(a)?*

*Reply 2: No. Section XI, IWA-5250(a) does not apply during normal plant operation.*

# ASME - Pressure Boundary Leakage

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## ***ASME BPV Section XI***

- Operability Determinations
  - ASME policy is based solely on structural integrity.
  - It has been long standing practice that ASME BPV XI does not make system or component Operability Determinations in the context of Plant Technical Specifications.
  - Multiple considerations, aspects, and sources, which may include ASME Code inspections and evaluations, are factored into operability determinations.
- ASME BPV Code Companion Guide
  - “The referenced interpretations... include several examples of how ASME Section XI does not provide requirements for the evaluation and acceptance of flaws identified by means other than a required inservice inspection or examination.”

# ASME - Pressure Boundary Leakage

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## ***ASME BPV Section XI***

- Conclusions
  - ASME, through consistent application of policy and procedures, has maintained that the inservice inspection rules of Section XI apply only to Section XI inservice inspections and tests.
  - Any additional application of the Code, such as application to conditions identified during the performance of plant operation, maintenance, walkdowns, or other activities, are beyond the direct jurisdiction and requirements of ASME Codes & Standards.
  - The draft proposed 50.55a(g)(4)(vi) expands the applicability of Section XI beyond current code requirements.

# NEI 18-03 (David Gullott)



- NEI 18-03, “Operability Determination” contains industry guidance on actions to take when assessing operability of a flaw (including through wall/through weld) identified in a ASME Class 1, 2 or 3 TS SSC.
  - Written in parallel with changes to the most recent revision to NRC inspection manual chapter on operability determinations, IMC-0326 issued in Oct. 2019
  - When evaluating operability of an operational leakage condition, NEI 18-03 requires consideration of structural integrity and ASME Code requirements
  - Alternative methods to demonstrate structural integrity may be needed when NRC approved Codes Cases or other approved methods are not available
    - ◆ Use of alternative or unapproved analytical methods for evaluating operability is not a new NRC position and is described in IMC-0326
    - ◆ Restoration of Code compliance falls under the corrective action program and is separate activity from the determination of operability
  - Provision (B) of the proposed operational leakage condition appears to conflict with the industry guidance and IMC allowance for evaluating operability of ASME SSCs by limiting structural integrity evaluations to only NRC approved evaluation methods

# Applicability to 10 CFR 50.69 (Shannon Rafferty-Czincila)

- Proposed condition makes no reference to RISC-3 components
- 10 CFR 50.69 excludes RISC-3 components from:
  - Inservice testing requirements of 10 CFR 50.55a(f)
  - Inservice inspection, and repair and replacement requirements for ASME Class 2 and 3 SSCs in 10 CFR 50.55a(g)
  - Electrical component quality and qualification requirements in 10 CFR 50.55a(h)
- Under 10 CFR 50.69(a) a licensee may voluntarily comply with the requirements in 10 CFR 50.69 as an alternative to compliance with 10 CFR 50.55a(g) which would include the proposed operational leakage condition

# Backfit Rule Review (Cheryl Gayheart)



- 10 CFR 50.109 (a)(1) Backfitting is defined as the modification of or addition to systems, structures, components or the procedures or organization required to . . . operate a facility; . . . which may result from a new or amended provision in the Commission's regulations or the imposition of a regulatory staff position interpreting the Commission's regulations that is either new or different from a previously applicable staff position after . . .
  - Proposed addition to section 50.55a would impose a new, legally binding regulation for addressing Operational Leakage, substantially expanding the applicability of Section XI and potentially limiting the flexibility allowed by the code.
  - This new generic, legally binding regulation would result in modification of procedures required to operate plants (e.g., procedures for determining operability, Section XI program procedures), therefore this rule change meets the definition of backfitting.
- It is not clear what has been done to address the requirements of the backfitting rule. The backfit rule cannot be avoided by setting agency expectations through generic communications and guidance documents, then stating there is no change in agency position when those expectations are later imposed via legally binding requirements, such as a new or amended regulation. The NRC needs to address what is being done regarding an evaluation against the backfit rule.
  - Such an approach is inconsistent with the Commission's longstanding position that backfits should be evaluated prior to being imposed on licensees.
- If this new requirement is included in the revision to 50.55a, it must meet the analytical requirements of the backfitting rule (*i.e.*, substantial increase in safety or security, and direct/indirect costs are justified)

# Questions?

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