

# **Draft Proposed Rule Language for Operational Leakage**

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# Acronyms

- American Society of Mechanical Engineers (ASME)
- Boiler and Pressure Vessel Code (Code)
- Title 10 of the Code of Federal Regulations (§)
- Systems, Structures and Components (SSC)

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# Outline

- Draft Proposed Rule Language
- Concerns and Responses
  - Current requirement
  - Section XI applicability
  - Limited options
  - Backfit issue
- Rulemaking Process

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# Draft Proposed Rule Language

- 10 CFR 50.55a(g)(4)(vi) Applicable ISI Code: Operational leakage.
- (A) Operational Leakage is leakage through a flaw in the pressure retaining boundary discovered outside any ASME BPV Code required pressure test. The term, “through-wall,” is an adjective used to describe a condition that extends from one surface to another surface in a component. For the purposes of paragraph (B) below, a component is defined as a vessel, pump, valve, storage tank, or piping system.

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# Draft Proposed Rule Language

- (B) If through-wall operational leakage is observed from an ASME BPV Code Class 1, 2 or 3 component and the structural integrity of the component must be established, then the methods described in the provisions of the applicable inservice inspection requirements, as specified in paragraph (g) of this section, must be used. These methods require implementation of an NRC approved Code Case or Nonmandatory Appendix U of ASME BPV Code, Section XI, to verify structural integrity or perform a repair/replacement activity

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# Concern – Current Requirement

- Industry comments
  - Operational leakage has always been covered by TS and operability guidance.
  - There is no regulation on operational leakage.
  - Guidance in Inspection Manual Chapter 0326 is not regulation.

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# License Requirements

- Systems Structures and Components (SSC) necessary for safety
- Structural integrity requirement
- Technical specifications
  - Specify the SSC required for safe operation
  - Operability requirements for safety

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# Generic Communications

- Consistent structural integrity requirement
- Generic Letter 90-05
- Generic Letter 91-18
  - NRC Inspection Manual Part 9900
- Regulatory Issue Summary 05-20
  - Revision 0 – 2005
  - Revision 1 – 2008
  - Revision 2 – 2015
    - Inspection Manual Chapter 0326
    - Revision 2 - 2019



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# Concern – ASME Section XI Applicability

- Industry comments
  - There are no requirements in ASME Section XI on operational leakage.
  - Section XI addresses leakage found during the conduct of ASME BPV code required pressure testing and the code has documented repeatedly that it does not apply to operational leakage.

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# Proposed Rule Language and Definitions

- ASME Code position is understood
- NRC requirements and long term policy has allowed licensees to use Section XI to address structural integrity versus construction code.
- ASME Code position creates need for clarification
  - Questions of basis for relief requests
  - Questions of what options are allowed

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# Concern – Options to Address Leakage

- Industry comments
  - Limiting the assessment of structural integrity to only methods in 50.55a(g) and NRC approved Code Cases or Appendix U would not include many components; valves, pumps, small piping, tubing, flanges, special weld joints, etc
  - Operability is allowable with through wall leakage.

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# Scope and Definitions

- The definitions provide clarity for the scope
  - only for through-wall leakage of ASME Code components
- Section XI provides acceptable leakage assessment methodologies and repair/replacement activity.
  - A licensee can propose an alternative or request relief

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# Concern - Backfit

- Industry comment
  - The condition imposes a new generic requirement that would require modification of procedures to operate plants, therefore meeting the definition of backfitting (10 CFR 50.109(a)(1)).

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# Backfit Assessment

- Current scope of rule language is a clarification only
- Does not change longstanding policy and requirements

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# Rulemaking Process

- Proposed rule language will be available for public comment
- Additional opportunities to engage with public as consistent with the NRC Principles of Good Regulation
  - Openness
  - Efficiency
  - Clarity
- Overall process expected to take 2 years to complete

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# Discussion

Questions?