

UT in Lieu of RT for New Construction



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NRC-Industry NDE Technical Information Exchange
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Problem Statement

- **Code Case N-659-3 currently disallowed because:**
 - Qualification by demonstration on 2-3 construction flaws
 - UT beam skipping for bi-directional coverage
 - ½ t exam volume insufficient for thin piping
 - Desire for 2% flaw heights, with lengths specified in NB-2553(c)
- **Construction RT creates difficulties with safety and logistics**
 - Licensing, storage and handling, logistics for shots, safety risks
 - Section XI PSI may find planar flaws that RT missed – Process starts over
- **RT acceptance criteria is problematic**
 - Forces repair of benign fabrication flaws
 - Lack of depth info precludes analytical evaluation and complicates flaw excavation/repair
 - Repair locations have shown an increased likelihood of in-service cracking
- **Section XI PSI UT required in addition to Construction RT**

Status of Activities

- **Develop basis to support UT for Section III and to simplify B31.1**

- ★ Publish publicly available tech basis on or before October 31st, 2025

- **Socialize Intent with Stakeholders**

- ★ With Industry Advisors

- ★ With NRC

- ★ With Section III

- ☆ With B31.1

- **Start Code Actions**

- ★ Socialize tech basis and draft code case at Nov 2025 Code Week

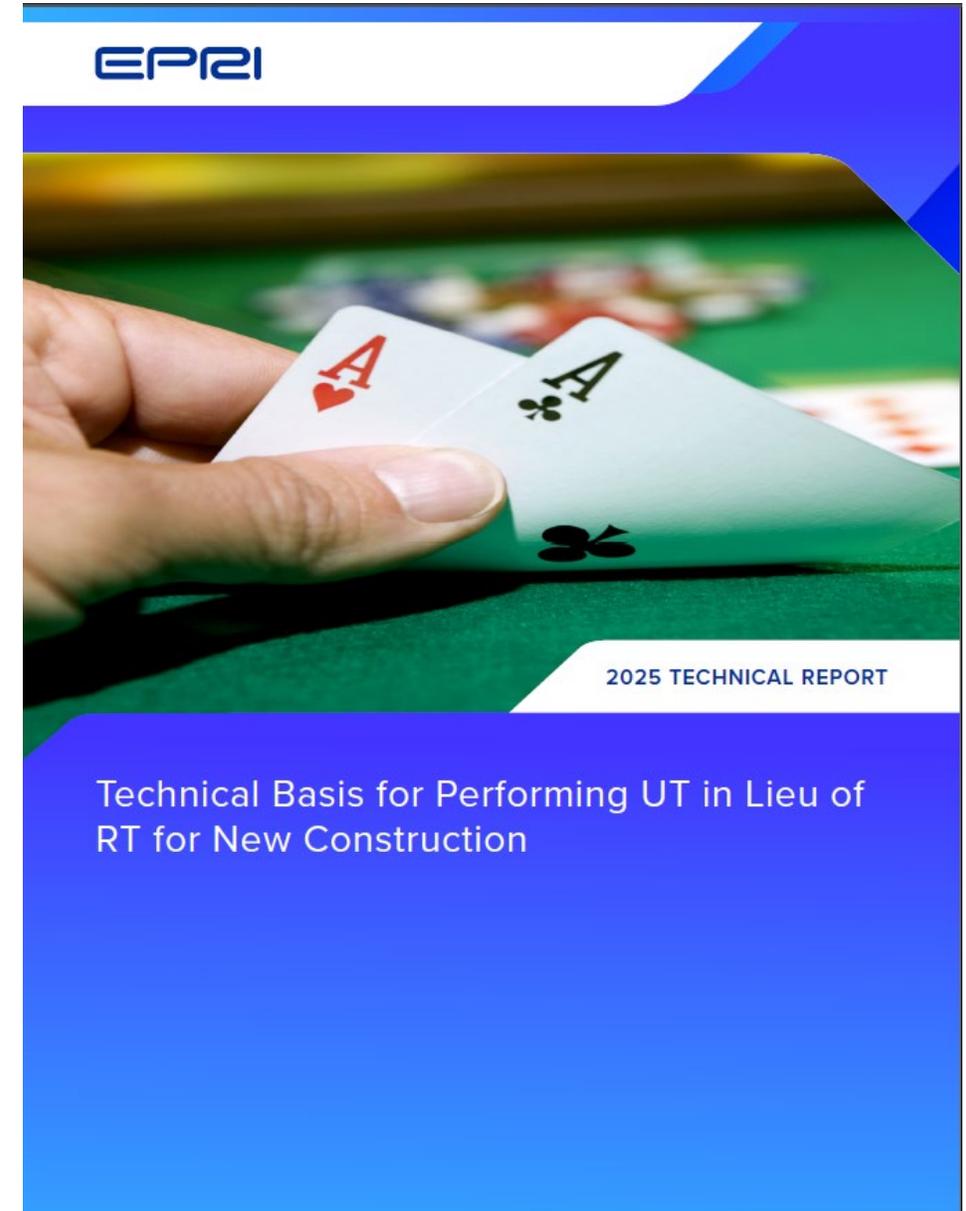
- ☆ Present code case for consideration at Feb 2026 Code Week

What's in the Technical Basis?

1. Reviews why RT was historically favored, and its challenges
2. Reviews numerous studies showing UT is safe, efficient, viable alternative that enables flaw evaluation to eliminate unneeded repairs
3. Revisits reasons for favoring RT in light of these study findings
4. Shows how UT alleviates most RT challenges
5. Provides side-by-side data comparisons of UT and RT
6. Discusses previous Code efforts to enable UT for construction
7. Proposes solution based on NRC-approved, Section XI Code Case N-831-1
8. Discusses extending same process to B31.1
9. Shows how construction UT could also satisfy Section XI PSI

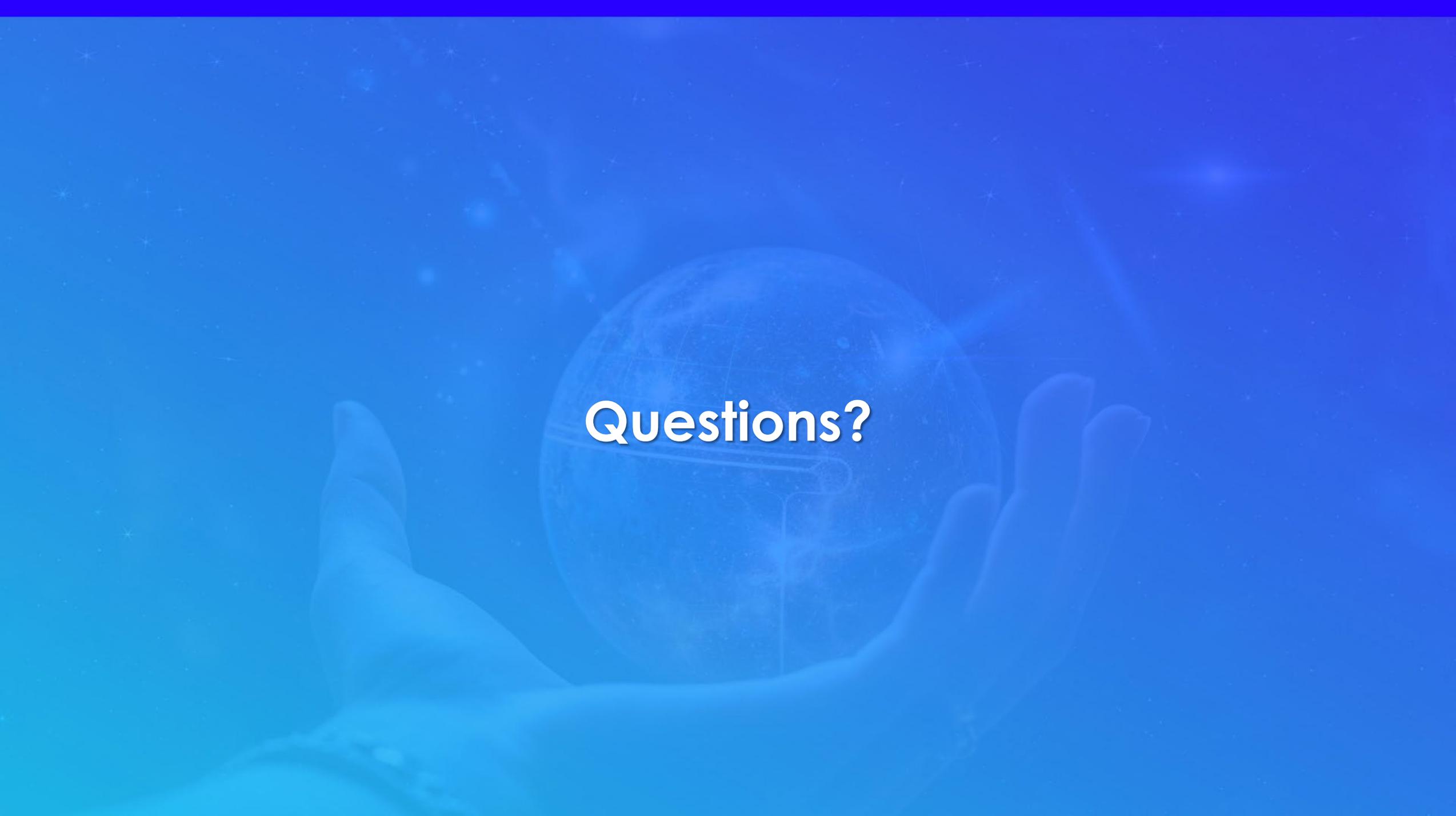
How to Get the Technical Basis

- *Technical Basis for Performing UT in Lieu of RT for New Construction* is now available [HERE](#), or by going to EPRI.com and searching for it by the title or by **3002032157**, which is the Product ID
- Please contact Ronnie Swain at rswain@epri.com or 704-724-5452 with any questions or comments.



Remaining Questions

- Any issue with qualifying UT for Sec III using N-831-1 method?
- Any issue treating everything as planar & evaluating to PSI tables?
- For welds undergoing no addl. changes, before plant start-up, any issue with using construction acceptance UT as PSI?
- Any concerns we have not yet addressed?

The image has a monochromatic blue color scheme. In the center, a pair of hands is shown from the wrists up, palms facing upwards, holding a globe of the Earth. The globe is semi-transparent, showing the continents and latitude/longitude lines. The word "Questions?" is written in a clean, white, sans-serif font across the middle of the globe. The background is a gradient of blue, with faint, glowing star patterns and a subtle grid of light lines, suggesting a cosmic or digital theme.

Questions?



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