



EPRI

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Industry Response to Draft NRC Safety Evaluation on ILRT Interval Extension

NRC-NEI-EPRI Public Meeting
January 17, 2007

Purpose

- The purpose of this meeting and this presentation are to:
 - Provide industry feedback on significant issue areas in the draft safety evaluation (SE)
 - Clearly describe the issues and SE positions that will be difficult, if not impossible to comply with
 - Develop an acceptable path forward

Due to time limitations, it will not be possible to describe and resolve all issues at this meeting.

Background

- The ILRT interval extension effort has been ongoing since 2001.
- During a June 17, 2005 public meeting,
 - NRC articulated a position that a permanent 20-year interval was unacceptable,
 - There were some perceived issues with the expert elicitation methodology proposed by EPRI

Redirection

- In an October 6, 2005 public meeting industry
 - Presented its amended plans for development of the guidance document and basis revisions (NEI 94-01 and EPRI 1009325, respectively).
 - The main facets of these plans contain items addressed in approved one-time extensions, and include:
 - Limiting the permanent ILRT interval to 15 years
 - Use of Jefferys non-informative prior
 - Probability calculation for Jefferies is based on 0 failures in 217 tests (current (2007) number of documented tests)

Redirection, Continued

- 10La and 35La used for small and large pre-existing leakage magnitudes
- Treatment of external events
- Treatment of age-related corrosion of non-inspectable areas of containment
- Two real examples provided, based on previous submittals.
- Although the risk impact assessment is generally applicable, a confirmatory plant-specific risk impact assessment has been suggested

'Recent' Events

- Revised industry documents were submitted to NRC for review on December 19, 2005.
- Draft RAIs on these documents were received by industry on October 24, 2006.
- Several iterations occurred since culminating in the submittal of responses to the RAIs and revised industry documentation (NEI 94-01, Rev. 2 and EPRI report 1009325 Rev. 2) on August 27, 2007

Current Status

- Draft SE provides a description of the documentation.
 - Changes committed to as a result of the redirection in 2005 were made.
 - Additional data was obtained indicating that there had been no failures identified in recent testing. As indicated on slide 5, the number of tests was updated to reflect this.

Current Status

- The RAIs indicated the need for additional changes to the documentation. Following are some changes made pursuant to the RAIs:
 - Standard reference in NEI 94-01 changes to ANSI/ANS-56.8-2002
 - Visual examination requirements and frequency clarified
 - Added requirement to assess the overall integrity of containment including performance of ILRT at 15-year intervals

Additional Changes made per RAIs

- Clarified testing requirements following modifications or repairs affecting containment integrity
- The sense of the EPRI risk impact assessment was changed from 'generic' to generally conservative and a plant-specific risk impact assessment was required.
- Considerations for treatment of plants that credit containment overpressure for ECCS recirculation.
- Considerations for external events
- Considerations and methods for corrosion in uninspectable areas or undetected corrosion
- Consideration of leak magnitudes exceeding 35 La.
- Consideration of risk impact assessment methodology

Safety Evaluation Issues

- Change in magnitude of release
 - 35La to 100La
- Population dose acceptance criteria
 - Combination of requiring the use of 100La [SE Section 3.2.4.3] and population dose acceptance criteria to <0.2 person-rem/year [SE Section 3.2.4.6]
- Inconsistent with previously approved results

Safety Evaluation Issues

- Industry recommendations / consideration:
 - Safety Evaluation has factual and technical errors
 - Lacks basis for
 - Change in La criteria
 - Population dose acceptance criteria to a value commensurate
- Issues are significant and in current form industry is considering withdrawal of the submittal

Safety Evaluation Issues

- PRA Quality
 - Issue: SE Section 3.2.4.1 states that the expectation is that the licensee's supporting Level 1 PRA to address the adequacy requirements of RG 1.200, Revision 1.
 - Industry guide would need to be revised
- Acceptance criteria for CCFP
 - Issue: SE Section 3.2.4.6 requires that the increase in CCFP be limited to about 1 percentage point or less.
 - The CCFP criteria of less than 1% has no basis
 - This criteria was not applied in the current extensions

Safety Evaluation Issues

- Areas subject to IWE/IWL inspection
 - Issue: SE Section 3.1.2 states: “the NRC staff has identified areas that need to be specifically addressed during the IWE and IWL inspections including a number of containment pressure-retaining boundary components (e.g., seals and gaskets of mechanical and electrical penetrations, bolting, penetration bellows) and a number of the accessible and inaccessible areas of the containment structures (e.g., moisture barriers, steel shells, and liners backed by concrete, inaccessible areas of ice condenser containments that are potentially subject to corrosion).
“ If an area is inaccessible, how should it be addressed during IWE/IWL inspections?”
 - Industry recommendation: Delete the requirement to address inaccessible areas.

Safety Evaluation Issues

- EPRI report regarding ECCS and containment overpressure
 - Issue: SE Section 3.2.2 states “EPRI Report No. 1009325, Revision 2, ensures that any potential increases in the likelihood of large containment leakage that could eliminate the containment overpressure relied upon for ECCS performance are specifically addressed and that any increases in CDF will be small when compared to with the risk acceptance guidelines of RG 1.174.”
 - The EPRI report indicates plants crediting overpressure should submit a traditional LAR (including an appropriate risk impact assessment).

Safety Evaluation Issues

- 'Errors' in EPRI analysis methodology
 - Issue: In SE Section 3.2.4.5, a statement is made that the NRC staff has identified several mathematical errors in the use of the EPRI expert elicitation results in the sensitivity calculations.
 - It appears that NRC is suggesting an improvement to the sensitivity analysis methodology. However the basic methodology used in most of the one-time extension requests is similar to that used in the sensitivity analysis.