

*Status of Industry Risk-Informed Activities
Affecting Environmental Qualification
Requirements*

IEEE Subcommittee 2

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Background

- For several years now, industry, working with the NRC, has pursued various risk-informed, performance-based approaches for existing regulatory requirements
 - intent is to assess and segregate SSCs as either high safety significant or low safety significant
 - if SSCs are determined to be high safety significant, existing treatments will be either retained or enhanced
 - if certain safety-related SSCs are determined to be low safety significant, reduced special treatments could be applied
- NRC has drafted 10CFR 50.69 to support this approach
 - Draft rule is currently with NRC Commissioners for final approval
 - forwarded by NRC staff on July 1, 2004

What will 10CFR 50.69 mean?

- 10CFR 50.69 is a voluntary rule
 - licensees can either choose to adopt this rule or to continue under current regulatory requirements
- Licensees can identify the scope of systems to be subject to 10CFR 50.69
- Licensees can identify the degree of implementation that is pursued
 - includes degree of regulatory control to reduce
 - includes extent of SSC implementation to pursue
- 50.69 provides latitude in the day-to-day decision-making affecting safety-related, low safety significant components

What will 10CFR 50.69 mean?

- If a licensee wishes to pursue 50.69, will require that a license amendment be submitted to NRC and approved
- 50.69 does not change the design requirements of SSCs
- 50.69 does not change the safety classification of SSCs
- If alternate treatments are to be applied to SSCs determined to be Low Safety Significant, the licensee must establish a basis of *reasonable confidence* that the SSC will continue to satisfy it's design functional requirements
 - must be established prior to implementing a reduction in special treatment requirements

Determining Component Importance

- Under 10CFR 50.69, all components under a selected system are categorized to determine their safety significance (either high or low)
- 10CFR 50.69 addresses high-level requirements for categorization
 - The Nuclear Energy Institute (NEI) has drafted a comprehensive categorization guideline (NEI-00-04) to guide industry in performing function/component categorizations
 - NEI-00-04 has been forwarded to NRC for review - expect NRC to endorse NEI-00-04 as an appropriate categorization approach when 50.69 is approved
 - NEI-00-04 also makes use of ASME Code Case N660

Treatment of Categorized Components

- Under 10CFR 50.69, components determined to be high safety significant will see no reduction in treatment requirements
 - if a component is currently subject to an EQ Program and it's controls, no change occurs in either the Program administration or implementation
- For components determined to be low safety significant, the special treatment requirements imposed by the regulations can be reduced
 - design functional requirements must still be satisfied

How 50.69 Affects Environmental Qualifications

- 10CFR 50.49 is included in the scope of regulations that permit special treatment reductions for SSCs determined to be Low Safety Significant
 - allows LSS components to be removed from the scope of the EQ Program
 - allows activities that maintain the qualification of LSS components to be eliminated
 - allows LSS components to be replaced with appropriate industrial parts
- In each case, the design functional requirements have not changed and still must be reasonably assured

How does Industry Consistently Apply RISC-3 Component Allowances?

- Industry, teaming with the Electric Power Research Institute (EPRI), is developing guideline documents to ensure consistency in application of the 10CFR 50.69 allowances
- Three documents are currently being generated:
 - EPRI Report 1011234 ‘10CFR 50.69 Implementation Guidance for Treatment of Structures, Systems, and Components’
 - EPRI Report 1008748 ‘Guidance for Accident Function Assessment for RISC-3 Applications’
 - EPRI Report 1009669 ‘RISC-3 Seismic Assessment Guidelines’

EPRI Broad-Based Guideline Overview

- This document is intended to be the over-arching guideline for industry RISC-3 implementation
- Will reference the Accident Function Assessment and Seismic Assessment documents, and will go into additional programmatic detail, as appropriate
- This document is intended to expand as industry needs and feedback continue to grow
- Industry Task Group is developing this Guideline

EPRI Accident Function Assessment Guideline

- This guideline provides the alternate approaches for RISC-3 SSCs that were previously under an EQ Program
- Focuses on establishing a basis of reasonable confidence for similar and alternate replacement SSCs
- Provides guidance on service life assessments/extensions
- Industry Task Group is developing the Guideline - wishes to involve other utility reviewers prior to publication
- For utilities interested in reviewing the document, contact EPRI Project Manager Gary Toman (gtoman@epri.com)

EPRI Seismic Assessment Guideline

- This guideline provides alternate approaches for RISC-3 SSCs that were previously under a Seismic qualification program
- Focuses on establishing a basis of reasonable confidence for similar and alternate replacement SSCs
- Considers experience-based insights
- Builds off of existing seismic approach insights (G-STERI (Generic Seismic Technical Evaluations of Replacement Items) and NARE (New and Replacement Parts))

Industry Activities in Support of 50.69

- South Texas Project served as the industry's proto-type pilot for 10CFR 50.69
 - received Exemption from Certain Special Treatment Requirements
 - has categorized 70K+ SSCs, implementation is in progress
- Wolf Creek is serving as a Westinghouse Owner's Group (WOG) categorization pilot for 50.69
 - Containment Spray and Control Room HVAC systems categorized using NEI-00-04 and ASME Code Case N660
- Surry is serving as the WOG pilot for a 50.69 submittal
 - Charging system categorized - intend to make application early next year

Other Status Items

- It is expected that a revision to the 10CFR 50.69 rule language and its Statements of Consideration will be required based on feedback from NRC Commissioners
- May result in some modification to the EPRI-generated guideline documents
- Once 50.69 is approved, it is anticipated that industry workshops/forums will be required to overview the allowances
 - future workshops would also permit industry feedback/lessons learned to be shared

Next Steps

- The train has left the station
- Anticipate that 10CFR 50.69 will be approved prior to the end of first quarter 2005
- It is expected that the EPRI Accident Function Assessment and Seismic Assessment documents will be issued shortly after 50.69 is approved
- Recommend that IEEE SC2 stay appraised of this issue, and be ready to respond to industry needs, as identified