



**DIFFERING PROFESSIONAL VIEWS
ON
PROPOSED 10 CFR 50.69 RULE PACKAGE**

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RISK-INFORMED OPTION 2

Under Option 2 of NRC risk-informed regulation effort, SECY-00-0194 states that licensees will be required to maintain functional capability of safety-related SSCs, including those categorized as low safety significant (RISC-3).

RISC-3 SSCs individually have low safety significance, but can have significant importance on a multiple SSC basis.

RISC-3 SSCs can constitute the vast majority (possibly 80%) of safety-related SSCs at operating nuclear power plants.

Effect of treatment reductions cannot be accurately modeled although the categorization process assumes high reliability for RISC-3 SSCs.

For SSCs that cannot be monitored for performance capability, the effect of treatment might only be determined during a design-basis event.

Consequently, a minimum set of treatment requirements is necessary to provide reasonable confidence that RISC-3 SSCs will be capable of performing their safety functions under design-basis conditions.

SAFETY CONCERN

Proposed rule does not provide sufficient requirements to make a determination that implementation of the rule will maintain adequate protection of public health and safety.

PROPOSED RULE DEVELOPMENT

NRC staff developed draft rule dated July 31, 2002, and accompanying SOC based on

Option 2 condition that RISC-3 SSCs need to receive sufficient regulatory treatment such that they are still expected to meet functional requirements, albeit at a reduced level of assurance;

lessons learned from plant-specific risk-informed reviews, including proof-of-concept effort;

generic studies of commercial practices;

comments from stakeholders in letters and at public meetings; and

component engineering experience.

Proposed rule deleted several RISC-3 treatment requirements during concurrence process on assertion that categorization process enhancements had reduced RISC-3 importance.

Examples of deleted requirements and their bases provided on following slides.

CONSENSUS STANDARDS

The July 31 draft rule included the following requirements:

These processes must meet voluntary consensus standards which are generally accepted in industrial practice, and address applicable vendor recommendations and operational experience. The implementation of these processes and the assessment of their effectiveness must be controlled and accomplished through documented procedures and guidelines.

The bases for these requirements include:

- Voluntary consensus standards are developed by industry experts, with NRC staff participation, to establish well understood risk-informed methods that provide reasonable confidence in SSC functionality.
- Individual licensees will not have sufficient expertise for all necessary aspects of design, construction, installation, operation, repair, and replacement of RISC-3 SSCs.
- Consideration of operating experience and vendor recommendations important in preventing common-cause problems from affecting multiple SSC functionality.
- Absence of documentation and effectiveness assessments prevents reliance on licensee internal processes to manage, document, and audit treatment processes.

DESIGN CONTROL

The July 31 draft rule included the following requirements related to design control:

Replacements for ASME Class 2 and Class 3 SSCs or parts must meet either: (1) the requirements of the *ASME Boiler & Pressure Vessel Code*; or (2) the technical and administrative requirements, in their entirety, of a voluntary consensus standard that is generally accepted in industrial practice applicable to replacement.

ASME Class 2 and Class 3 SSCs and parts shall meet the fracture toughness requirements of the SSC or part being replaced.

RISC-3 SSCs must have a documented basis to demonstrate that they are capable of performing their safety-related functions.

Design control includes selection of suitable materials, methods, and standards; verification of design adequacy; control of installation and post-installation testing; and control of design changes.

DESIGN CONTROL

(continued)

The bases for these requirements include:

- Requirements are necessary to provide reasonable confidence that replacements for ASME Class SSCs are designed using acceptable criteria.
- Fracture toughness is important to preclude brittle fracture during design-basis events.
- Documentation is necessary to provide reasonable confidence that design requirements have been met.
- Most important aspects of design control specified to provide clear requirements while allowing flexibility in implementing 50.69.

CORRECTIVE ACTION

The July 31 draft rule contained the following requirement:

In the case of significant conditions adverse to quality, measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

The bases for this requirement include:

- The proposed rule only requires specific failed SSC to be repaired.
- The proposed rule does not require that potential common-cause problems be evaluated and corrected.
- Common-cause problems can invalidate categorization process.

CONCLUSION AND RECOMMENDATION

Conclusion:

The proposed rule should be revised to incorporate treatment requirements sufficient to make a determination that implementation of the rule will maintain adequate protection of public health and safety.

Recommendation:

Revise the proposed rule to incorporate the July 31 version of the draft rule that addressed ASME, NEI, and other stakeholder comments; and request public comment on further improvements.