

## **Summary of Comments on Proposed 10CFR 50.69, Presented by an Ad-Hoc Committee of IEEE/PES/NPEC/SC-2**

The treatment detail provided in the Statements of Consideration is incongruent with the language of the proposed rule and is not reflective of the original intent of SECY-98-0300 to risk-inform the regulations. The staff's focus on specifying treatment details for RISC-3 structures, systems and components (SSCs) in the Statements of Consideration does not reflect a risk-informed balance for these least-important safety-related components. In some cases, the treatment detailed in the Statements of Consideration for the RISC-3 SSCs exceeds the current regulatory requirements for safety-related components.

Because of the additional treatment details specified in the Statements of Consideration, there is concern with industry's ability to implement proposed rule 10CFR 50.69 in a cost-effective manner. As a result, the industry may not take advantage of this significant opportunity to realize the safety benefits offered by this risk-informed proposed rule. The resulting effect for industry will be the continued treatment of all safety-related SSCs with equal importance without regard for the insights that have been gained through quality risk management methods and models.

### **Specific Comments on Proposed 10CFR 50.69**

#### **1. Proposed rule 50.69 imposes additional burden on all safety significant SSCs**

Several areas in the Statements of Consideration explicitly address the inclusion of additional requirements on safety significant structures, systems and components (SSCs). For example, the Statements of Consideration reads, in part:

"As part of this process, those SSCs found to be of risk-significance would be brought under a *greater degree of regulatory control* through the requirements being added to the rule designed to maintain consistency between actual performance and the performance considered in the assessment process that determines their significance."

The above statement indicates that the NRC's intent is for licensees to subject all safety significant SSCs (RISC-1 and RISC-2) to enhanced regulatory control. This is neither necessary nor in agreement with the intent of SECY-98-0300.

#### **2. Proposed rule 50.69 imposes unnecessary review requirements on safety significant SSC treatment**

The Statements of Consideration state that:

Section 50.69(d)(1) requires that a licensee or applicant ensure that RISC-1 and RISC-2 SSCs perform their functions consistent with categorization process assumptions by evaluating treatment being applied to these SSCs to ensure that it supports the key assumptions in the categorization process that relate to their assumed performance. To meet this, a licensee should first evaluate the treatment being applied in light of the credit being taken in the categorization process, with

appropriate adjustment of treatment or categorization to achieve consistency as necessary.

To meet the proposed rule language, a licensee would be explicitly obligated to evaluate the treatment applied to all safety significant SSCs to ensure adequacy of treatment. This requirement is a substantial burden on licensees and is a significant disincentive for licensees to pursue 50.69. Since RISC-1 SSCs are currently subjected to full regulatory requirements, it is believed that reviewing the regulatory-imposed treatment adds no value.

### **3. Proposed rule 50.69 virtually eliminates the use of experience data for seismic applications**

The Statements of Consideration state that:

“...it would be difficult to rely on earthquake experience alone to demonstrate functionality of SSCs”

and,

Additionally, if the SSC is required to function during or after the earthquake, the experience data would need to contain explicit information that the SSC actually functioned during or after the design basis earthquake events as required by the design basis. The successful performance of an SSC after the earthquake event does not demonstrate it would have functioned during the event.

The expectation described in the Statements of Consideration is an undue burden on licensees, and virtually eliminates the use of experience data to provide reasonable assurance that low safety significant SSCs can perform their intended function. This position is neither necessary nor appropriate.

### **4. Proposed rule 50.69 places increased evaluation burden on RISC-3 containment isolation valves**

The Statements of Consideration state that for containment isolation valves (CIVs) categorized as RISC-3:

“...the licensee will need to address the impact of the proposed change in treatment on a case-by-case basis to ensure that the defense-in-depth principle continues to be satisfied.”

It is not clear what is intended by the language in the Statements of Consideration. Section b.1.ix of the proposed rule details criteria for exempting RISC-3 CIVs from Appendix J. These stated criteria ensure that any release path is either small (1” or less) or eliminated due to the penetration remaining pressurized or fluid-filled during anticipated accident scenarios. Based on these insights, no additional evaluation or analysis should be required for RISC-3 SSCs.

The implied evaluation and subsequent documentation describe an expectation that would be an additional burden that is neither necessary nor appropriate.

## **5. Proposed rule 50.69 imposes additional maintenance requirements on RISC-3 SSCs**

The Statements of Consideration state that:

...licensees are expected to establish the scope, frequency, and detail of predictive, preventive, and corrective maintenance activities (including post maintenance testing) to support the determination that RISC-3 SSCs will remain capable of performing their safety-related functions under design basis conditions throughout their service life.

It is unclear whether the Statements of Consideration imply that if a licensee's program does not explicitly include features for each RISC-3 SSC for predictive, preventive, and corrective maintenance, as well as post-maintenance testing, that these additional features are required to be added to the licensee's program. This inferred expectation could require licensees to develop an additional program for RISC-3 SSCs that goes beyond normal industrial practices.

## **6. Proposed rule 50.69 imposes additional burden to justify no change in component reliability due to reduced treatment**

The Statements of Consideration state for PRA-modeled components that:

The proposed rule would require applicants and licensees to perform evaluations to assess the potential impact on risk from changes to treatment. For SSCs modeled in the PRA, this would likely be accomplished by sensitivity studies to assess the impact of changes in SSC failure probabilities or reliabilities that might occur due to the revised treatment.

and, for components not modeled in the PRA, states that:

For other SSCs, other types of evaluations would be used to provide the basis for concluding that the potential increase in risk would be small.

The industry position has been, and continues to be, that reduced treatment on RISC-3 SSCs will not have an appreciable effect on component failure rates. The intent of an Option 2 approach was to apply industrial controls to the RISC-3 SSCs, and by so doing, would provide sufficient confidence that the SSCs would continue to perform their design functional requirements when demanded.

Performing sensitivity studies of modeled RISC-3 SSCs, with a bounding multiple of postulated failure rate increases, would provide sufficient assurance that any increase in a RISC-3 SSC failure rate would be recognized and compensatory measures taken well before the bounding condition was ever challenged. Performing sensitivity studies for non-modeled SSCs is not required due to the safety significance of these SSCs not meeting the threshold to require modeling.

The requirement for licensees to perform and submit bounding analyses of non-modeled RISC-3 SSCs to justify that existing programs are in place to ensure that potential changes in risk remain small places an unjustified and undue burden on licensees. This added burden is neither necessary nor appropriate.

## Other Topics for Public Comment on Proposed 10CFR 50.69

The NRC sought public comment on several specific issues pertaining to the proposed Rule. Each of these issues is addressed below:

**Issue 1:** Should additional detailed language be included in 50.69(d)(2)?

**Response:** Additional detailed language should not be included in 50.69(d)(2). It is the licensee's responsibility to adequately develop and implement processes that control RISC-3 SSC's design, procurement, maintenance, and corrective actions.

**Issue 2:** Should 50.69(c) require a level 2 internal and external initiating events, all-mode, peer-reviewed PRA to be submitted to and approved by the NRC?

**Response:** NRC should not require a level 2 internal and external initiating events, all-mode, peer-reviewed PRA as a minimum 'entry card' for 50.69 implementation. While it is understood that a more comprehensive PRA provides greater categorization insights, a less comprehensive (but acceptable) PRA supplemented with non-PRA methods to address other modes and hazards has proven to provide adequate insights to make appropriate risk-informed decisions in existing applications.

**Issue 3:** Should 50.69 require NRC review and approval of the licensee's proposed treatment program for RISC-3 SSCs?

**Response:** 50.69 should not require NRC review and approval of a licensee's proposed treatment program for RISC-3 SSCs. While NRC approval of a licensee's proposed RISC-3 treatment program would provide added confidence for the licensee and NRC during 50.69 implementation activities, the 50.69 approval process would become encumbered with excessive details focused on the least important safety-related equipment. This encumbrance would prove to be a disincentive for licensees to pursue a 50.69 process.

**Issue 4:** Should NRC inspection and enforcement programs be modified to enable appropriate degree of regulatory oversight to be exercised?

**Response:** The NRC inspection and enforcement program should not require modification to allow implementation of 50.69. With the added insight of safety significant and low safety significant SSCs resulting from the 50.69 categorization process, both licensees and the NRC can better focus their resources on those SSCs determined to be safety significant. Oversight and enforcement can be accomplished under the existing programs.

**Issue 5:** What role can relevant operating experience play in reducing the uncertainty associated with the effects of treatment on RISC-3 performance?

**Response:** An extensive database of industry operating experience already exists which aids in reducing the uncertainty associated with reduced treatment on RISC-3 SSCs. It is believed that reduced treatment will not, in and of itself, result in increased component failure rates of RISC-3 SSCs.