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Secretary of the Commission
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852
Attention: Rulemaking and Adjudications Staff

DOCKETED
USNRC
September 8, 2003 (7:44AM)
OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Re: Comments on Proposed Rule Regarding Risk-Informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power Reactors (RIN 3150-AG42)

On May 16, 2003, the NRC issued a proposed rule on "Risk-Informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power Reactors." In response to the NRC request for public comment on the proposed rule, we submit the attached comments as the industry's prototype pilot for the 10CFR 50.69 effort.

Through the South Texas Project (STP) Exemption from Special Treatment Requirements, we have gained valuable experience in performing component categorizations and in adjusting treatments for identified RISC-3 components. Through this experience, we have demonstrated that the Exemption results in an enhanced focus on safety significant structures, systems and components (SSCs) while reducing unnecessary burden associated with low safety significant SSCs.

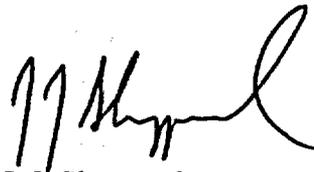
The STP experience to date has demonstrated the value of the proposed rule and its role in enhancing a licensee's safety focus. However, we have concerns with the existing proposed rule language, especially with the level of detail provided in the Statements of Consideration for RISC-3 treatment. We recognize that the Statements of Consideration are not part of the proposed rule; rather, these insights are intended to reflect the NRC's understanding of the basis for the rule and how it will be implemented. If these concerns, along with others expressed by the industry, are not satisfactorily addressed, it is our belief that the industry will not be able to effectively implement this important risk-informed rule and that the intended safety benefits will not be achieved.

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We appreciate the opportunity to submit comments on this important proposed rule and we fully support the Commission's efforts to risk-inform the special treatment requirements in 10CFR Part 50. We will continue to work with the industry and staff to address these comments, and look forward to a final consensus rule that meets the needs of both the NRC and the industry.

If there are any questions concerning the provided comments, please contact either Mr. Glen E. Schinzel at (361) 972-7854 or me at (361) 972-8757.



J. J. Sheppard
President & CEO

Attachment 1 - Summary of Comments on Proposed 10CFR 50.69

Attachment 2 - Comments on Proposed 10CFR 50.69 Compared with the South Texas Project Exemption from Special Treatment Requirements

Attachment 3 - Other Topics for Public Comment on Proposed 10CFR 50.69

cc:

The Honorable Nils J. Diaz

The Honorable Edward McGaffigan, Jr.

The Honorable Jeffrey S. Merrifield

Samuel J. Collins

ATTACHMENT 1

Summary of Comments on Proposed 10CFR 50.69

As the industry's prototype pilot for the 10CFR 50.69 activities, the South Texas Project (STP) is in a unique position to offer insightful comments to the NRC concerning actual categorization and implementation lessons learned in a process that closely mirrors the proposed rule 10CFR 50.69.

STP was granted an Exemption from the Special Treatment Requirements in 10CFR Parts 21, 50, and 100 in August 2001. The regulatory special treatments exempted for STP closely coincide with the scope of proposed rule 50.69. STP had envisioned that the granted Exemption from Special Treatment Requirements would serve as a springboard to further the concepts of risk-informed regulatory applications within the NRC and within the industry. It was anticipated that the lessons learned during the STP Exemption review would foster a more refined rule for industry application with wide industry participation. However, the details provided in the Statements of Consideration cause us concern. While it is understood that these insights are not regulatory requirements, it is also understood that these statements reflect the staff's intent for the Rule and its implementation.

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. This additional burden goes well beyond the allowances granted to STP in our Exemption from the Special Treatment Requirements.

During more than two years of interaction between the NRC and STP on the requested Exemption from Special Treatment Requirements, many technical issues were addressed and resolved to the point that permitted the ultimate approval of the requested Exemption. However, many of these same technical issues related to treatment of RISC-3 SSCs appear in the proposed rule's Statements of Consideration. The lessons learned during the STP interactions have not been factored into the proposed rule language and into the insights that support this language.

Because of the additional treatment details specified in the Statements of Consideration, STP is concerned with industry's ability to implement proposed rule 10CFR 50.69 in a cost-effective manner. As a result, the industry will likely 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.

ATTACHMENT 2

Comments on Proposed 10CFR 50.69 Compared with the Granted South Texas Project Exemption from Special Treatment Requirements

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, on page 26513, II, of the Statements of Consideration it reads:

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.

In contrast, the STP UFSAR 13.7.3.1 reads:

The purpose of treatment applied to safety-related HSS and MSS [safety significant] SSCs is to maintain compliance with NRC regulations and the ability of these SSCs to perform risk-significant functions consistent with the categorization process. These components continue to receive the treatment required by NRC regulations and STP's associated implementing programs.

While it is agreed that RISC-1 beyond design basis functions and RISC-2 SSCs may require additional special treatment requirements to be applied, the above statement from the Statements of Consideration 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 and is inconsistent with the STP Exemption.

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

In the Statements of Consideration, page 26540 V.5.1, it is stated 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.

In contrast, the STP UFSAR 13.7.3.1 states that:

“These components [safety significant SSCs] continue to receive the treatment required by NRC regulations and STP’s associated implementing programs.”

To meet the proposed rule language of 50.69(d)(1), 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. This added burden is neither necessary nor appropriate and is inconsistent with the STP Exemption.

Existing regulatory requirements for safety-related components have proven effective in providing the necessary assurance that these components can perform their design basis functions when demanded. It would be expected that current regulatory requirements for safety significant SSCs, along with their accompanying treatment, have resulted in sufficiently effective, reliable components to not obligate additional review by licensees.

Since RISC-1 SSCs are currently subjected to full regulatory requirements, it is our belief that reviewing the regulatory-imposed treatment adds no value.

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

In the Statements of Consideration, page 26542 V.5.2.1, it is stated 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.

In contrast, the STP UFSAR 13.7.3.3.2 states:

...one or more of the following methods will provide a sufficient basis to determine that the procured item can perform its safety-related function under design basis conditions, including applicable design basis environmental [listing provided] and seismic (earthquake motion, as described in the design bases, including seismic inputs and design load combinations) conditions:

The STP UFSAR goes on to list five available methods (vendor documentation, equivalency evaluation, technical evaluation, technical analysis, and testing), any of which could be utilized to

develop a reasonable assurance bases for procurement of an alternate, non safety-related (non-qualified) part.

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, and is inconsistent with the granted STP Exemption.

In addition, many licensees (A-46 plants) today make use of seismic experience data (without the restrictions noted in the Statements of Consideration) for all safety-related SSCs. These regulatory allowances for safety-related components have proven effective in providing the necessary assurance that these components can perform their design basis functions when demanded. It would be expected that components determined to have a lesser degree of safety significance through an approved categorization process would not be subjected to special treatment controls that go beyond those required for high safety significant components.

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

In the Statements of Consideration, page 26538 V.4.3 it is stated 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.”

In contrast, the STP UFSAR Table 13.7-1 states:

“Local leak rate tests of LSS containment isolation valves and other safety-related LSS or NRS [low safety significant] components are not required.”

The STP UFSAR goes on to identify the scoping criteria for CIVs that satisfy the Appendix J exemption, however, no assessment of treatment impact is required.

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 approximate the language provided in the STP UFSAR and ensures 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 documentation in Section V.4.3 describes an expectation that would be an additional burden that is neither necessary nor appropriate, and is inconsistent with the granted STP Exemption.

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

In the Statements of Consideration, page 26543 V.5.2.3 it is stated 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.

While this language is similar to the STP UFSAR language, there are some important differences. The STP UFSAR 13.7.3.3.4 states:

The purpose of the maintenance process for safety-related LSS and NRS [low safety significant] SSCs is to establish the scope, frequency, and detail of maintenance activities necessary to support STP's determination that these SSCs will remain capable of performing their safety-related functions under design-basis conditions.

and

The frequency and scope of predictive maintenance actions are established and documented considering vendor recommendations, environmental operating conditions, safety significance, and operating performance history. STP may deviate from vendor recommendations where a technical basis supports the functionality of the safety-related LSS and NRS SSCs. Such deviations are not required to be documented.

The Statements of Consideration state the staff's expectations for the areas of post-maintenance testing, preventive maintenance, and service beyond a component's design life. It is unclear, however, 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.

In the South Texas Project Exemption, it was clear that STP would rely on the existing industrial programs and practices in place at the station, and that these programs would only be revised if STP determined that a change was necessary to satisfy our basis for reasonable assurance determination.

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

In the Statements of Consideration, page 26516, III.2.0, it is stated 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, 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. A licensee will need to submit its basis to support that the evaluations are bounding estimates of the potential change in risk and that programs already in existence or implemented for proposed 50.69 can provide sufficient information that any potential risk change remains small over the lifetime of the plant.

In contrast, the STP UFSAR 13.7.2.3 states:

To determine the impact of a potential change in reliability of the LSS components on the overall plant risk, a sensitivity study is performed as part of the periodic updates to the PRA to determine the cumulative impact on CDF and LERF from postulating a factor of 10 increase in the failure rates for all modeled LSS components and non-categorized low ranking PRA components.

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. This position was communicated during the STP Exemption application using available data from an industry-wide database. There has been no objective evidence provided by the NRC to substantiate the claim that reducing the regulatory-imposed special treatment requirements will directly relate to reduced component reliability if industrial practices are applied. 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. This approach would eliminate the need to specifically consider changes in SSC reliability due to alternate treatment during the categorization process. 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 is an unjustified and undue burden on licensees. This added burden is neither necessary nor appropriate, and is inconsistent with the granted STP Exemption.

ATTACHMENT 3

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. It is agreed that the proposed level of detail is beyond what is necessary to provide reasonable confidence in RISC-3 design basis capability in light of the robust categorization process.

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. In addition, the industry PRA peer certification process aids in ensuring that minimum standards are satisfied and requires PRA enhancements where weaknesses are noted. If a level 2 internal and external initiating events, all-mode, peer-reviewed PRA were required as the minimum standard for 50.69, a limited number of licensees would be available to implement the Rule, and a disincentive would be established for pursuing risk-informed applications. This disincentive would result in fewer applications exercised and less experience and feedback to continue to refine and expand risk-informed applications.

Licensees who have developed comprehensive PRAs should be allowed more flexibility with SSC categorization and resulting treatment. A less comprehensive PRA will result in more conservative categorization decisions, equating to fewer SSCs moving from RISC-1 to RISC-3. Therefore, there is a built-in incentive for licensees to enhance their PRAs factoring in their available resources.

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.

It is in the licensee's best interest to operate their facilities safely and reliably, and in a cost-effective manner. This safety and economic balance has resulted in industry operating capacity factors reaching 90% and greater. These same sound safety and economic approaches will be applied to RISC-3 SSCs to ensure their continued reliability. Therefore, requiring NRC review and approval of a licensee's proposed treatment program is unwarranted.

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.

It should be recognized that NRC staff, region, and resident training will be necessary for effective 50.69 implementation, with future inspections focused on safety significant SSCs.

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

Response: As discussed during the South Texas request for exemption from the special treatment requirements, an extensive database of operating experience already exists which aids in reducing the uncertainty associated with reduced treatment on RISC-3 SSCs. While it is still believed that reduced treatment will not, in and of itself, result in increased component failure rates of RISC-3 SSCs, South Texas conducted an extensive review of industry experience databases to compare the impact of treatment on both safety-related and non-safety related SSCs. This review included over 74 billion component hours of direct industry operating experience. The review found that for all 33 component type categories contained within the databases, the failure frequencies were comparable for both safety-related and non-safety related SSCs in each of the component type categories.

Future deficiencies noted on RISC-3 SSCs will continue to be captured and documented on Condition Reports. These Condition Reports permit the continuing evaluation of RISC-3 SSC operating experience by the IDP during periodic reviews, and allows the IDP to adjust the SSC treatment or categorization level if deemed necessary.