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Steven P. Frantz
202-467-7460
sfrantz@morganlewis.com

December 31, 2001

The Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Attention: Rulemakings and Adjudication Staff

Re: Comments on Draft Rule Language – Risk Informed Special Treatment Requirements

Dear Secretary:

On November 29, 2001, the NRC staff issued draft rule language for proposed new section 10 CFR § 50.69, "Risk-Informed Treatment of Structures, Systems, and Components" (SSC). Under the draft rule language, licensees may use a risk-informed process for categorizing SSCs according to their safety and risk significance and removing SSCs of low safety significance from the scope of certain identified special treatment requirements. In response to the staff's request for comments on the draft rule language, we are submitting the following consensus comments on behalf of our clients: Exelon Generation, LLC; South Texas Project Nuclear Operating Company; TXU Electric; and PPL Susquehanna, LLC.

We fully support the Commission's efforts to risk-inform special treatment requirements in 10 CFR Part 50, and we appreciate the opportunity to submit comments at this early stage of this very important rulemaking for the industry. The NRC should be commended for the openness of the process used in this rulemaking, and we believe that this process could serve as a model in the future for handling complex and novel rulemaking issues. In particular, NRC's frequent interactions with stakeholders and the exchange of ideas should, in the long run, result in a better rule.

We also appreciate the significant progress NRC has made in addressing prior industry comments on the proposed rulemaking. In particular, we support the NRC's decision to eliminate: (1) the proposed Appendix T; (2) the requirements to monitor and maintain the reliability and availability of SSCs against categorization assumptions; (3) the requirement to update the Probabilistic Risk Assessment (PRA) and categorization process every three years; and (4) the requirement to use an NRC-endorsed commitment change

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process and to use burdensome criteria for design changes. Elimination of these prescriptive requirements from the draft language significantly enhances the potential viability of the proposed rulemaking without affecting public health and safety.

We remain concerned, however, that the special treatment requirements for RISC-3 SSCs remain overly restrictive and prescriptive and are not necessary for safety. Given the significant costs associated with development and implementation of the categorization process and new special treatment programs, we believe that the draft rule language should be revised to provide licensees with more flexibility to implement their normal industrial practices for RISC-3 SSCs in order to enable licensees to focus their resources on safety-significant activities.

We also believe that the draft rule language is unnecessarily narrow in terms of the relief from special treatment requirements provided to RISC-3 SSCs. For example, the draft rule would not provide relief from the special treatment requirements in the ASME Code that are incorporated by reference in 10 CFR § 50.55a, seismic qualification requirements in Appendix A to Part 100 and Appendix S to Part 50, the special treatment requirements in the fire protection rule in Appendix R to Part 50, or the license renewal requirements in Part 54. There is no basis for applying these special treatment requirements to RISC-3 SSCs, and the scope of the draft rule should be expanded to encompass these requirements.

Finally, several of the provisions in the draft language are in excess of those included in the approved South Texas Project (STP) exemption request. In general, these additional provisions would increase the burden associated with implementation of the rule and are not necessary to safety. These more burdensome provisions should be deleted.

Attachment A provides our detailed comments on the draft language. Attachment B provides our suggestions for revising the draft rule.

Sincerely,

Steven P. Frantz
Paul M. Bessette

SPF/emh
Enclosure

ATTACHMENT A

Comments on Proposed Language for
Risk-Informing Special Treatment Requirements

We strongly support the Commission's effort to move forward on this risk-informed rulemaking, and we encourage the Commission to continue to give high priority to completing this important rulemaking. However, we do have several concerns regarding the provisions in the draft rule language. Specifically:

- The special treatment requirements for RISC-3 SSCs are too prescriptive and are unnecessary to assure component functionality.
- The scope of the rule as it pertains to RISC-3 SSCs is unduly narrow and does not take full advantage of the opportunity to risk-inform NRC's special treatment requirements.
- Draft § 50.69 contains a number of burdensome new requirements and restrictions that were not imposed on the approved STP risk-informed exemption.
- NRC should establish a method for implementing the rule that does not require an amendment to the license.
- NRC should clarify certain provisions that appear unnecessary or unclear.

Each of these concerns is discussed in more detail below.

I. The Special Treatment Requirements For RISC-3 SSCs Are Too Prescriptive and Are Unnecessary

In our prior comments submitted on November 13, 2001, in response to draft Option 2 language, we noted that when the NRC initiated the Option 2 rulemaking more than two years ago, both NRC and the industry were under the impression that RISC-3 SSCs would be subject to industrial practices. As stated in SECY-98-300:

> Under this option, SSCs of low safety significance (from a risk-informed assessment) would move from "special treatment" to normal industrial (sometimes called "commercial" treatment), but would remain in the plant and expected to perform their design function but without additional

margin, assurance or documentation associated with high safety significant SSCs.

We continue to believe that industrial practices are robust within the nuclear industry and provide sufficient confidence that RISC-3 SSCs will be capable of performing their safety functions under design-basis conditions, consistent with the assumptions in the categorization process. We believe that no special treatment requirements beyond normal industrial practices are warranted, given the low safety significance of RISC-3 SSCs.

The industrial practices to be applied to RISC-3 SSCs are the same controls and practices that are applied to non-safety-related components at nuclear plants. Industrial practices include design, procurement, installation, inspection, testing, maintenance, assessment, corrective action, and configuration management. We recognize that the nature and level of industrial treatment applied to components does vary from plant to plant and from component to component. This variation is based on several factors, including the design function of the component, nationally recognized standards, vendor recommendations, and operating experience. Contrary to the view expressed by the NRC staff at the workshop on November 7, 2001 (e.g., Tr. 56-7), this variation is a strength, not a weakness, since it allows treatment to be tailored to match the design function and plant conditions in question. As discussed in the STP exemption request, industrial practices have been proven to be effective in practice. Thus, there is no need for uniform treatment of RISC-3 SSCs, and NRC should not mandate that all RISC-3 SSCs be subject to a single set of criteria or treatment.

Industrial practices are sufficiently rigorous to provide sufficient assurance of functionality of RISC-3 SSCs, commensurate with their low safety significance. However, even if the change to industrial practices were assumed to result in a decrease in component reliability or availability, such a decrease would not have a significant effect on safety. As provided in draft NEI 00-04, a licensee's sensitivity studies will demonstrate that even a substantial increase in the failure rates of these SSCs will have an insignificant effect on risk, e.g., as shown through small changes in core damage frequency (CDF) and large early release frequency (LERF). Overall, we believe that industrial practices are sufficiently robust for RISC-3 SSCs, given their low safety significance and the proven effectiveness of industrial practices.

The draft rule would require special treatment that goes beyond normal industrial practices. For example, the draft rule may require licensees to develop new treatment processes governing design control, procurement, installation, maintenance, inspection, and configuration controls for RISC-3 components. The risk-informed rule will be of little value if it merely substitutes one set of special treatment requirements for another set of special treatment requirements. While the processes in the draft rule are admittedly less stringent than full Appendix B treatments, they are more burdensome than industrial practices, and will require significant resources to develop, implement and maintain.

This effort will significantly dilute any burden-reduction benefit gained from risk-informed special treatment requirements. In fact, we believe the effort necessary to develop these separate programs may be so significant as to discourage many licensees from deciding to implement the rule. Therefore, to ensure the viability of the new rule, NRC should delete the treatment requirements for RISC-3 SSCs.

If the NRC, nevertheless, decides to require special treatment requirements that go beyond existing industrial practices, the requirements in draft § 50.69(d)(2) should be revised to address the following issues:

1) Design Control Process -- Draft § 50.69(d)(2)(ii)(A) states that design functions, design bases, and design inputs for RISC-3 SSCs must be "preserved," "maintained," and applied "throughout their service life." Although we do not believe that it is the staff's intent, this language could be interpreted as a prohibition on design changes that affect the original design for RISC-3 SSCs. There is no equivalent requirement under existing special treatment requirements in Criterion III of Appendix B, and the draft rule language is inappropriate and should be clarified. In particular, the rule should clearly indicate that a licensee is only required to "control" (not "preserve" or "maintain") the design functions and bases for RISC-3 SSCs, and may change its design in accordance with applicable requirements such as 10 CFR § 50.59.

2) Design Inputs – Draft § 50.69(d)(2)(ii)(A) and (B) would require a licensee to maintain design inputs. The term "designs inputs," as used in guidance documents, is very expansive and includes special treatment. For example, Section 3.2 of ANSI N45.2.11-1974 requires that design inputs include 28 categories of information, including codes, standards, regulatory requirements; chemistry sampling requirements; "test requirements including in-plant tests and the conditions under which they will be performed;" and "maintenance, repair, and in-service inspection requirements." If a licensee were not allowed to change these design inputs, it would essentially be foreclosed from implementing a risk-informed approach to special treatment. We do not believe that such a result is intended by the NRC staff. Therefore, we recommend that the reference to design inputs be deleted.

3) Procurement Process -- Draft § 50.69(d)(2)(ii)(B) refers to design basis conditions, "including appropriate environmental conditions and combinations of normal and accident conditions with earthquake motions." There is no need to specify design basis scenarios in the rule. NRC should simply refer to design basis conditions as specified in a licensee's safety analysis report (SAR).

4) Testing under Design Basis Conditions - Draft § 50.69(d)(2)(ii)(C), (D), and (E) could be misinterpreted as requiring testing under design basis conditions. These provisions should be clarified to state that testing need not be performed under design basis conditions.

5) Maintenance Process -- Draft § 50.69(d)(2)(ii)(D) states that predictive, preventive, and corrective maintenance activities must be established to support the determination that RISC-3 SSCs will remain capable of performing their design basis functions. NRC should clarify that the application and scope of the maintenance program can vary depending on the function of the component. Additionally, reference to predictive and preventive maintenance should be deleted since NRC regulations currently do not require any particular type of maintenance, such as predictive and preventive maintenance, for RISC-1 and 2 SSCs.

6) Inspection, Test, and Surveillance Process - Draft § 50.69(d)(2)(ii)(E) requires collection of data or information and evaluation of operating characteristics of RISC-3 SSCs to ensure that they will remain capable of performing their design basis functions throughout their service life. This requirement is ambiguous and could be misinterpreted to require collection, evaluation, and extrapolation of test data throughout a component's service life. The language in the draft rule should be clarified to state that a licensee is required to determine by test, inspection, operation or other means that a RISC-3 component is functional. Such a determination provides sufficient assurance of continued functionality commensurate with the low safety-significance of such components, and more detailed evaluation is unwarranted since an unexpected failure of a RISC-3 component would not be safety-significant.

7) References to "throughout their service life" – In a number of places, draft § 50.69(d)(2)(ii) requires special treatment to ensure that SSCs will be capable of performing their safety-related functions "throughout their service life." This qualification is ambiguous and unnecessary. As long as a RISC-3 SSC is functional (or is corrected if it is not functional), there should be no requirement to predict or evaluate its continued functionality throughout its service life. Such evaluations are not warranted for low safety-significant components.

II. The Scope of the Draft Rule is Unduly Narrow

Draft § 50.69(d) states that RISC-3 SSCs are subject to existing regulatory requirements except as allowed by § 50.69(d)(3). Section 50.69(d)(3) appropriately excepts RISC-3 and 4 SSCs from, among other things, the requirements of 10 CFR Part 21, most of the environmental qualification requirements of 10 CFR § 50.49 and the maintenance rule requirements in § 50.65, and the reporting requirements of §§ 50.72 and 50.73. However, the scope of § 50.69(d)(3) is still too narrow. The scope of the draft rule should be expanded to take full advantage of the opportunity to risk inform NRC's special treatment requirements. In particular, NRC should risk-inform the following requirements:

1) License Renewal -- NRC should remove RISC-3 and 4 SSCs from the scope of the license renewal rule in 10 CFR Part 54. There is no reason to exclude RISC-3 and

4 SSCs from the scope of NRC's other special treatment requirements and, at the same time, subject them to requirements for aging management in Part 54. Instead, RISC-3 and 4 SSCs should be subject to the same treatment during the period of license renewal as they are during the original 40-year term of the license.

2) Fire Protection -- NRC should remove RISC-3 and 4 SSCs from the scope of the special treatment requirements in Appendix R to Part 50 (*e.g.,* the special treatment requirements in sections II.C, III.E, III.M, and III.N of Appendix R).

3) Seismic Qualification -- NRC should exclude RISC-3 and 4 SSCs from the seismic qualification requirements of in Appendix A to Part 100 and Appendix S to Part 50. The draft rule states that exclusion of RISC-3 and 4 SSCs from the scope of the seismic qualification requirements in Appendix A to Part 100 is not needed because these requirements allow for qualification by either testing or suitable dynamic or static analysis. However, seismic qualification (by testing or engineering analysis) is not warranted and should not be required for RISC-3 and 4 SSCs. Instead, a licensee should only be required to provide sufficient confidence that a component can perform its safety-related function under applicable seismic conditions. As recognized in the STP exemption, there may be methods other than testing or engineering analysis for ensuring that a component can perform its seismic function, including use of equivalency evaluations and technical evaluations. Therefore, in order to enable an applicant or licensee to use such methods for RISC-3 and 4 SSCs and to be consistent with the STP exemption, draft § 50.69(d)(3) needs to be expanded to include a reference to the seismic qualifications in Appendix A to Part 100 and Appendix S to Part 50.

4) IEEE Requirements – Draft § 50.69(d)(3) does not, but should, exclude RISC-3 and 4 SSCs from the scope of the quality assurance and environmental qualifications in the IEEE standards referenced in 10 CFR § 50.55a(h). Such an exclusion would be consistent with NRC's treatment of these requirements in the STP exemption.

5) ASME Requirements – In draft § 50.69(d)(3), NRC notes that the staff intends to risk-inform the special treatment requirements of § 50.55a through code cases. However, for several reasons, reliance on code cases is not an adequate alternative to risk-informing § 50.55a.

- There is no guarantee that the code case for risk-informed repair and replacement activities will ever be approved by ASME.
- There is no risk-informed code case governing initial fabrication, installation, and construction under the ASME code.
- The risk-informed code cases for inservice testing (IST) and inservice inspection (ISI) only allow changes to testing frequencies and do not authorize removal of RISC-3 and 4 components from the scope of the IST and ISI requirements in the ASME code.

Therefore, NRC should, as a part of this rule, exclude RISC-3 and 4 SSCs from the special treatment requirements of the ASME code that are incorporated by

reference in § 50.55a.

III. Draft § 50.69 Specifies Programmatic Requirements Not Included in the STP Exemption Request

Draft § 50.69 specifies requirements that generally are consistent with those approved by the NRC in the STP exemption request. However, there are several new or more burdensome programmatic requirements that were not included in the approved STP exemption request. We believe that the NRC should, as a minimum, review and revise these requirements to be consistent with the approved STP exemption.

The following is a description of the programmatic requirements that appear to be new or more burdensome than those approved by the NRC in the STP exemption request:

1) Schedule and Scope of Implementation -- Draft § 50.69(e)(2)(iv) and (v) would require licensees to submit a schedule for implementation and description of the scope of the SSCs to be subject to the risk-informed rule. Additionally, draft § 50.69(f)(1) would require the FSAR to document the status of implementation. There are no comparable provisions in the approved STP exemption. Furthermore, there is no reason to require a licensee to commit to any particular schedule or scope of components (as long as a licensee does not "cherry-pick" individual components within a system). Until such time as the licensee implements the risk-informed rule for a particular structure or system, it will be subject to all of the special treatment requirements in the current rules. This will provide adequate protection of safety, even if the licensee does not implement the rule per its schedule or is unable to address all of the structures or systems in its plans. Therefore, these provisions in the draft rule should be deleted.

2) Documentation of Basis for Treatment -- Draft § 50.69(f)(2) would require that licensees document (and maintain for the license duration) the basis for treatment of SSCs made pursuant to § 50.69. The STP exemption contains no comparable provision. Furthermore, there is no reason to document the basis for the particular treatment of an SSC - - even NRC's current special treatment requirements do not require such documentation. This appears to be a burdensome paperwork requirement with no basis in safety and should be deleted.

3) Records -- Draft § 50.69(f)(4) would require a licensee to maintain records applicable to § 50.69 until the license is terminated. This section would appear to impose new lifetime record retention requirements on licensees. In contrast, STP only was required to retain such records as mandated by station procedures. The requirement in the draft language is an unnecessary and burdensome paperwork requirement and should be deleted.

IV. Licensee Implementation of the Risk-Informed Rule

As noted in our prior comments, a regulatory approach that requires prior NRC review and approval of a license amendment may be viewed by licensees as having too much uncertainty. As noted in SECY-99-256, and based on the length of the STP exemption approval process (more than 2½ years from the date of submission of STP's draft exemption request to issuance of the exemption), the amendment process may be viewed as too unpredictable, uncertain, and costly. Additionally, it would impose an unnecessary administrative burden on the NRC staff to review numerous detailed individual amendment requests.

NRC should instead issue a set of high-level criteria in the regulations and endorse NEI 00-04. A licensee could either implement the NEI guidance document or establish alternatives that satisfy the high-level criteria in the regulation. NRC would not be required to grant prior approval for deviations from the guidance, but would verify proper implementation of the rule through the normal inspection and enforcement process. This process would allow utilities at least some minimal flexibility on how to comply with the rule, but ensure overall industry consistency. This process is also consistent with how the NRC and licensees have implemented the Maintenance Rule.

Alternatively, a licensee could submit a letter to the NRC committing to implement the risk-informed regulations and include a general description of its program. If the licensee chooses to deviate from the regulatory guidance, the letter would include justification and any supporting analyses for such deviations. Only substantial deviations from regulatory guidance would require prior NRC approval (*e.g.*, deviations that decrease the effectiveness of the categorization process in identifying RISC-1 and 2 SSCs). The detailed program for implementing the risk-informed special treatment requirements would be maintained on-site for NRC inspection. This alternative process would provide NRC with prior review and approval authority for substantial deviations from its regulatory guidance, while avoiding some of the burdens (on the NRC and licensees) associated with the license amendment process. It also would allow utilities some minimal flexibility on how to comply with the rule.

Under either of these alternatives, a licensee would be required to update its applicable licensing basis documents (such as the quality assurance program description and FSAR) to describe the categorization process and the treatment for RISC-3 SSCs. The rule could require that this update be submitted six months prior to implementation of § 50.69. This would provide the NRC will an ample opportunity to review a licensee's processes and, if necessary, seek changes to ensure compliance with the rule.

V. Other Clarifications and Comments

We also have the following clarifications and comments regarding the draft language:

1) Categorization Process -- Draft § 50.69(c) requires that the methodology for categorizing

SSCs into one of the four RISC categories be "approved" or "acceptable." This imposes an undue burden and unnecessary restriction on licensees. Instead, the NRC should specify the criteria for an acceptable categorization process in a separate guidance document, and should allow deviations from the guidance as discussed above.

2) PRA Acceptance Criteria – Draft § 50.69(c)(1) states that the need to specify criteria on acceptability of the PRA is under staff review. There is no need to address this issue as part of this rulemaking. If necessary, NRC should issue separate regulatory guidance on PRA acceptability.

3) Calculating Changes in CDF and LERF -- Draft § 50.69(c)(3) would require a licensee to ensure that the change in CDF and LERF resulting from the effect of the change in treatment or categorization is small. The reference to categorization in this section should be deleted, since categorization alone does not have any effect on CDF or LERF. Furthermore, the NRC has recognized that there is no data on effects of changes in treatment, except for the data presented in STP's exemption request that shows no appreciable differences in failure rates of safety-related and non-safety-related SSCs. This section should be clarified to allow the use of sensitivity studies in lieu of calculating the effect on CDF and LERF from changes in treatment.

4) Monitoring Degraded SSCs – Draft § 50.69(c)(4) requires monitoring of those SSCs that, when degraded, can affect the results of the categorization process, and a means for taking action to ensure the bases for the categorization continue to be satisfied. The basis for and requirements of this section are unclear. The categorization process as provided by NEI 00-04 includes a sensitivity analysis to demonstrate that even a substantial increase in failure rates of RISC-3 and 4 SSCs will not affect a component's categorization. Therefore, there would not appear to be any need to monitor the reliability and availability of RISC-3 and 4 SSCs. To the extent that this draft requirement is only intended to require licensees to identify and correct nonconformances in RISC-3 and 4 SSCs and to periodically evaluate whether such SSCs should be recategorized, the draft rule should be reworded to state such a requirement clearly and explicitly. With respect to monitoring of RISC-1 and 2 SSCs, monitoring is already required under the Maintenance Rule, and there would not appear to be any need for any additional monitoring under § 50.69. Therefore, NRC should either delete this requirement or clarify its purpose and scope.

5) Special Treatment Requirements for RISC-4 SSCs – Draft § 50.69(d)(3) states that SSCs that perform RISC-3 or RISC-4 functions are not subject to listed special treatment requirements. NRC should specifically state in this section, or another part of the rule as appropriate, that RISC-4 SSCs are not subject to any special treatment requirements.

6) Scope of Applicability – Draft § 50.69(b) states that the risk-informed rule is limited to certain applicants and licensees, and does not include applicants for a construction permit or operating license under Part 50 or applicants for design certification under Part 52. There is no basis for excluding such applicants from the scope of § 50.69, and the rule should be expanded to include such applicants.

7) Use of CDF and LERF – Draft §§ 50.69(c)(1) and (3) require use of the concept of CDF and LERF in the categorization process. Although these concepts are applicable to and useful for categorizing components in a light water reactor, the concepts may not be applicable to some types of advanced reactors in which there is no credible potential for core melt. Therefore, to enable all advanced reactors to take advantage of § 50.69, NRC should consider using a more general concept (such as "risk") while allowing for the use of CDF and LERF as a surrogate for risk where applicable.

8) Treatment of RISC-1 and 2 SSCs – Draft § 50.69(d)(1)(ii) states that the assumptions in the categorization process and the treatment being applied to RISC-1 and 2 SSCs shall be consistent. This requirement is unclear since the categorization process is based upon the importance of the function of SSCs and not the treatment applied to SSCs. We recommend that this requirement be reworded as follows: "The licensee shall also establish and implement treatment as necessary to ensure that RISC-1 and 2 SSCs can perform their safety-significant function."

9) Changes to Program Description – Draft § 50.69(g)(1) provides an exception from § 50.59 for changes in a SAR made during implementation of the risk-informed rule. A similar exception should be made from § 50.54(a) for changes in the quality assurance program description, since changes to the QA program will be necessary to implement § 50.69. Additionally, there may be a possibility that implementation of § 50.69 might affect treatment of SSCs discussed in the emergency plan and security and safeguards plans. Therefore, § 50.69(g)(1) should also provide an exception from § 50.54(p) for changes in the security and safeguards plans and from § 50.54(q) for changes in the emergency plan made during implementation of § 50.69.

10) Changes in Procedures and Processes – Draft § 50.69(g)(3) requires a written basis for a determination that changes in procedures and processes for implementing § 50.69(d) continue to satisfy the requirements of that section. This documentation is unnecessary and burdensome, and would exceed the requirements imposed on changes to procedures and processes for RISC-1 and 2 SSCs (*e.g.*, licensees are not currently required to document the basis for their determination that changes to their QA procedures comply with Appendix B). Therefore, this provision should be deleted.

11) Definitions – The definitions of RISC-1 and 2 in draft § 50.69(a) should be

clarified to state that RISC-1 and 2 functions are "high" safety-significant. Similarly, draft § 50.69(g)(2) should be modified to refer to "high" safety-significant SSCs or to refer explicitly to RISC-1 and 2 SSCs.

ATTACHMENT B

Recommended Changes to Draft Section 50.69

The following provides a redline markup with recommended changes in NRC's draft § 50.69.

§50.69 Risk-Informed Treatment of Structures, Systems and Components

§50.69(a) Definitions

RISC (risk-informed safety class)-1 functions are functions performed by safety-related SSCs that are high safety-significant as determined by a categorization process that meets the requirements of paragraph (c) of this section.

RISC-2 functions are functions performed by nonsafety-related SSCs that are high safety-significant as determined by a categorization process that meets the requirements of paragraph (c) of this section.

RISC-3 functions are functions performed by safety-related SSCs that are low safety-significant as determined by a categorization process that meets the requirements of paragraph (c) of this section.

RISC-4 functions are functions performed by nonsafety-related SSCs that are low safety-significant as determined by a categorization process that meets the requirements of paragraph (c) of this section.

For the purpose of this rule, SSCs performing RISC-1, -2, -3, and -4 functions are considered RISC-1, -2, -3, and -4 SSCs, respectively.

§50.69(b) Applicability. The requirements of this section are applicable to (1) applicants for or holders of a construction permit or license to operate a nuclear power plant under §50.21(b) or 50.22; (2) applicants for or holders of a combined license for a nuclear power reactor issued under part 52 of this chapter; (3) applicants for a design certification under Part 52 ~~[applicability to and requirements for Part 52 certificates or combined licenses are still under staff review]~~; and (~~3~~4) holders of renewed licenses under Part 54 of this chapter, who elect to adopt these requirements in lieu of other requirements (as specified below).

§50.69(c) Categorization Process Requirements. An applicant or licensee who elects to implement the alternative requirements of this section shall categorize SSC functions into one of the four RISC categories as defined in section 50.69(a) using a categorization process which ~~has been approved by the NRC. The categorization process~~ must:

(1) Use a plant-specific Probabilistic Risk Assessment (PRA) to determine the relative importance of modeled SSC functions in terms of risk, such as core damage frequency and large early release frequency. This calculation must be performed with an evaluation model which includes internal initiating events at full power operations. External initiating events and low power and shutdown modes of operation must also be considered, either as part of this PRA or as part of the integrated decision-making process described in §50.69(c)(2). ~~[The need to specify criteria on acceptability of the PRA is under staff review]~~

(2) Use an integrated decision-making process to determine the safety significance of functions performed by the SSCs. The categorization of these functions as either high safety significant or low safety significant must include:

(i) Results and insights from the PRA, including those from importance evaluations.
(ii) Determination of SSC function importance using a~~n acceptable~~ process for addressing initiating events and plant operating modes not modeled in the PRA.
(iii) Defense-in-depth.
(iv) Maintenance of sufficient safety margins.
(v) Sufficient supporting justification in terms of items (i) to (iv) above for SSC functions determined to be of low safety significance.

(3) Assure that the potential change in risk, such as core damage frequency and large early release frequency, is small including consideration of the change in risk resulting from ~~categorizing SSCs and~~ modifications to special treatment. This determination may be based upon the results of a sensitivity study.

(4) Include a means for ~~monitoring the performance or~~correcting the condition of those SSCs that, when degraded, can affect the results of the categorization process and a means for taking actions as necessary such that the bases for an SSC's categorization continues to be satisfied.

(5) Include a provision for timely updates of the PRA and SSC categorization to assure that the actual design, construction, operational practices, and operational experience of the plant are realistically reflected in the bases for categorization.

§50.69(d) Requirements for Structures, systems, and components.

(1) SSCs that perform RISC-1 or RISC-2 functions are subject to the following:

(i) Existing regulatory requirements continue to apply.

(ii) ~~The licensee shall ensure that the assumptions in the categorization process and the treatment being applied to these SSCs are consistent.~~ The licensee shall also establish and implement treatment as necessary to ensure that RISC-1 and RISC-2

SSCs can perform their safety-significant function.

(2) SSCs that perform RISC-3 functions are subject to the following:

(i) Existing regulatory requirements continue to apply except as allowed by §50.69(d)(3).

(ii) The licensee shall have processes to control the design; procurement; installation; maintenance; inspection, test, and surveillance; corrective action; oversight; and configuration, for RISC-3 SSCs. **[We recommend that the remainder of this paragraph (including paragraphs A – H) be deleted. If the NRC does not agree, we recommend the changes as indicated below.]** The pertinent requirements of the processes described below must be implemented to provide reasonable confidence in the capability of RISC-3 SSCs to perform their safety-related functions under design-basis conditions~~ throughout their service life~~.

(A) Design Control Process. ~~Design control for RISC-3 SSCs must preserve~~The functional requirements and design bases of RISC-3 SSCs must be identified and controlled, including~~;~~ selection of suitable materials, methods, and standards; verif~~y~~ication of design adequacy; and control of design changes to support the determination that RISC-3 SSCs ~~remain~~are capable of performing their safety-related functions under design-basis conditions~~ throughout their service life~~. ~~As part of design control, design inputs related to the performance of design-basis functions of RISC-3 SSCs throughout their service life must be maintained and applied.~~ Changes to the design shall be made in accordance with applicable regulatory requirements, including § 50.59.

(B) Procurement Process. Suitable methods must be used to support a documented determination that procured SSCs will be capable of performing their safety-related functions under design-basis conditions.~~, including appropriate environmental conditions and combinations of normal and accident conditions with earthquake motions. Design inputs related to the performance of design-basis functions must be satisfied to support the determination that the procured RISC-3 SSCs remain capable of performing safety-related functions under design-basis conditions throughout their service life.~~

(C) Installation Process. SSCs must be properly installed and tested to support the determination that RISC-3 SSCs are capable of performing their safety-related functions under design-basis conditions~~ throughout their service life~~. Testing need not be performed under design basis conditions.

(D) Maintenance Process. The scope, frequency, and detail of ~~predictive, preventive, and corrective~~ maintenance activities (including post-

maintenance testing) must be established 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~~. Testing need not be performed under design basis conditions.

(E) Inspection, Test, and Surveillance Process. ~~Data or information must be obtained to support the determination that these SSCs will remain capable of performing safety-related functions under design-basis conditions throughout their service life. The data or information for pumps, valves, and snubbers must allow evaluation of operating characteristics of these RISC-3 SSCs.~~ RISC-3 SSCs shall be periodically tested, inspected, operated, or otherwise verified to be functional. Testing need not be performed under design basis conditions.

(F) Corrective Action Process. Conditions, when identified, that could prevent RISC-3 SSCs from performing their safety-related functions under design-basis conditions must be ~~identified,~~ documented~~,~~ and corrected in a timely manner to preclude repetition.

(G) Oversight Process. The implementation of the treatment processes for RISC-3 SSCs, and the assessment of the effectiveness of those processes, must be controlled and accomplished through documented procedures ~~and~~or guidelines (including the qualification, training, and certification of personnel) to support the determination that SSCs are capable of performing safety-related functions under design basis conditions~~-~~. ~~throughout their service life~~.

(H) Configuration Control Process. The configuration of RISC-3 SSCs and applicable plant documents must be controlled to reflect current plant status and design changes.

(iii) The treatment of RISC-4 SSCs is not subject to regulatory control.

(3) SSCs that perform RISC-3 or RISC-4 functions are not subject to the following:

(i) 10 CFR Part 21

(ii) The requirements that high point vents must conform to Appendix B in §50.44c(3)(iii), the requirements to justify the hydrogen control system with a suitable program of experiment and analysis in §50.44c(3)(iv)(A); §50.44c(3)(iv)(B); §50.44c(3)(iv)(C); §50.44c(3)(iv)(D)(1); §50.44c(3)(iv)(D)(2); §50.44c(3)(iv)(D)(3); the requirements to qualify for the environment caused by inerting, systems and components required to establish and maintain safe shutdown and containment integrity in §50.44c(3)(iv)(E). [The NRC staff is working on a proposed revision to 10 CFR 50.44; this revision, if approved,

would likely impact the specific citations noted above. As these rulemakings progress, appropriate changes to this item will be made]

(iii) The environmental qualification requirements except that the equipment must continue to satisfy the environmental conditions under which these SSC must perform as listed in 10 CFR 50.49(e)(1) through (7).

~~[Note that the staff intends to risk inform the special treatment requirements of 50.55a through the use of code cases.]~~

(iv) The technical and administrative requirements in 10 CFR 50.55a(a) through (e), except that RISC-3 items must satisfy either the technical (but not the administrative) requirements of the ASME Section XI Code or the ASME Construction Code as applicable, or the technical and administrative requirements of other nationally recognized Codes, Standards, or Specifications suitable for the item.

(v) The inservice testing and inservice inspection requirements in 10 CFR 50.55a(f) and (g).

(vi) The quality assurance and environmental qualification requirements in the standards incorporated by reference in 10 CFR 50.55a(h).

(~~i~~vii) §50.55(e)

(viii) § 50.65, except for paragraph (a)(4).

(~~vi~~ix)§50.72

(~~vii~~x)§50.73

(~~viii~~xi)Appendix B to 10 CFR Part 50

(~~i~~xii) The Type B and Type C leakage testing requirements in both Options A and B of Appendix J to 10 CFR Part 50, for SSCs meeting the following criteria:

(A) For containment penetrations that meet one or more of the following criteria:

(1) The penetration is 1-inch nominal size or less

(2) The penetration is continuously pressurized

(B) For containment isolation valves that meet one or more of the following criteria:

(1) The valve is required to be open under accident conditions to prevent or mitigate core damage events;

(2) The valve is normally closed and in a physically closed, water-filled system;

(3) The valve is in a physically closed system whose piping pressure rating exceeds the containment design pressure rating and that is not connected to the reactor coolant pressure boundary;

(4) The valve is in a closed system whose piping pressure rating exceeds the containment design pressure rating and is connected to the reactor coolant pressure boundary; and

(5) the valve is 1-inch nominal size or less.

(xiii) The treatment requirements in sections II.C, III.E, III.M, and III.N of Appendix R to 10 CFR Part 50.

~~[This paragraph does not include Appendix A to Part 100, Sections VI(a)(1) and VI(a)(2) requirements on qualification testing, because Part 100 states qualification testing or suitable dynamic analysis is required - thus, the staff's current view is that a rule change is not needed to eliminate the special treatment requirement to perform qualification tests for RISC-3 SSCs].~~

(xiv) The seismic qualification requirements in Appendix S to 10 CFR Part 50 and Appendix A to 10 CFR Part 100.

(xv) 10 CFR Part 54.

§50.69(e) Submittal and Approval Process.

(1) A licensee who wishes to implement section 50.69 shall submit, at least six months prior to implementation, ~~a license amendment request pursuant to section 50.90~~ a proposed update of its quality assurance program description and final safety analysis report that contains the information in section (2) below. An applicant who wishes to implement section 50.69 shall submit, as part of its quality assurance program description and safety analysis report, the information in section (2) below.

~~[The applicability to and requirements for Part 52 certificates or combined licenses are still under staff review]~~

(2) The submittal must contain the following information:

(i) A list of the regulations identified in §50.69 (d)(3) for which the requirements of §50.69 are being substituted.

(ii) A description of the categorization process and decision criteria used that meets the requirements of §50.69(c).

(iii) Description of the measures taken to assure that the quality of the PRA used in the categorization process is commensurate with the application.

~~(iv) A description of the scope of SSCs to which the requirements of §50.69 will be applied.~~

~~(v) A schedule for implementation of §50.69.~~

(iv) A commitment to NRC guidance for implementing § 50.69 or an identification and justification for any deviations from that guidance. A deviation that decreases the effectiveness of the categorization process in identifying RISC-1 and RISC-2 SSCs shall be subject to NRC approval.

§50.69 (f) Program Description, Documentation, and Reporting.

(1) Licensees adopting the requirements of this section shall ~~include in~~update their FSAR in accordance with the provisions of §50.71(e) and shall update their quality assurance program description in accordance with the provisions of § 50.54(a). ~~Licensees shall update their FSAR to reflect status of implementation of section 50.69 at the system level.~~

(2) The licensee shall document, and maintain for the duration that an SSC is installed, the basis for categorization ~~and treatment~~ of SSCs made pursuant to the requirements of this section.

(3) The licensee shall submit a licensee event report to the NRC for any event or condition that could have prevented the satisfaction of a RISC-1 or RISC-2 safety significant function. The report shall be submitted consistent with the requirements of §50.73(b). [The staff is considering whether this requirement should be placed in §50.73 (but be applicable only to those who use 50.69) or be in this section]

~~(4) The licensee shall retain records required by this section until the license is terminated.~~

§50.69 (g) Change Control.

(1) When a licensee first implements section 50.69 for a structure or system, changes to the final safety analysis report for the implementation need not include a supporting

§50.59 evaluation and changes to the quality assurance program description, emergency plan, and security and safeguards plans do not require prior NRC approval under § 50.54.

(2) Changes to the categorization process requirements contained in the submittal required by section 50.69(e) as approved by the NRC, may be made without prior NRC approval, unless the change would decrease the effectiveness of the process in identifying high safety-significant SSCs.

(3) Changes to the procedures and processes for implementing §50.69(d), may be made if the requirements of this section continue to be met. ~~The licensee (or applicant) shall prepare a written basis for this determination.~~

From: <pbessette@morganlewis.com>
To: <emm@nrc.gov>
Date: Thu, Jan 10, 2002 8:51 AM
Subject: copy of comments

Attached is a copy of our comments that we submitted to the NRC on the Option 2 language on behalf of several clients (Exelon, STP, TXU, and PPL) on 12/31/01. Please contact me at 202-467-7796 if you have any problems receiving these comments or have any questions on the substance. We spent substantial time working with our clients to prepare these comments and want to ensure that they are reviewed and considered (in addition to the comments provided by NEI) as part of your process . Please note that our comments also include a suggested mark-up of the rule language.

PS...I would appreciate a return note acknowledging your receipt of these comments.

Again, thanks for your consideration.

(See attached file: 1-WA_1718008_2.DOC)

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**********coldscn01

CC: <sfrantz@morganlewis.com>