

February 18, 2004

MEMORANDUM TO: Catherine Haney, Program Director
Policy and Rulemaking Programs
Division of Regulatory Improvement Programs, NRR

FROM: Timothy A. Reed, Senior Reactor Systems Engineer */RA/*
Policy and Rulemaking Program
Division of Regulatory Improvement Programs, NRR

SUBJECT: SLIDES FOR FEBRUARY 19, 2004, ADVISORY COMMITTEE ON
REACTOR SAFEGUARDS (ACRS) MEETING ON 10 CFR 50.69

Attached are the slides that the staff will use at the February 19, 2004, meeting of the Advisory Committee on Reactor Safeguards (ACRS) Subcommittee on Reliability and Probabilistic Risk Assessment. These slides present the significant results of the staff's effort to review the public comments on proposed 10 CFR 50.69.

Attachments: As stated

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**RISK-INFORMED PART 50
SPECIAL TREATMENT REQUIREMENTS
PROPOSED SECTION 50.69**

**ACRS SUBCOMMITTEE ON
RELIABILITY AND PROBABILISTIC RISK ASSESSMENT**

FEBRUARY 19, 2004

**Timothy Reed, Thomas Scarbrough
John Fair, Donald Harrison
Office of Nuclear Reactor Regulation
US Nuclear Regulatory Commission**



BRIEFING OBJECTIVE

- **To brief the Committee on the current status regarding the significant technical issues that must be addressed to publish a final 50.69 rule - specifically:**
 - 1) Staff's efforts to address comments received on proposed §50.69**
 - 2) Staff's review of NEI 00-04 draft revision D**
- **Focus of the discussion will be on the possible changes from proposed rule to final rule**



BACKGROUND

- **SECY-98-300 (12/98) proposed high level approaches (“options”)**
- **SECY-99-256 (10/99) provided rulemaking plan and ANPR**
- **SECY-00-194 (9/00) provided preliminary views on ANPR comments and thoughts on regulatory approach**
- **South Texas exemption (8/01) approved (proof of concept for §50.69)**
- **SECY-02-0176 (9/30/02) provided proposed 50.69 to Commission**
- **Commission SRM - 3/28/03**
- **Proposed 50.69 published for comment - 5/16/03**
- **Public comment period closed - 8/30/03**



ONGOING TASKS TO ISSUE 50.69

- **Review/resolution of public comments**
- **Review of Draft Revision D of NEI 00-04 (and revision to DG-1121)**
- **WOG pilot examining 50.69 submittal and staff review**
- **Revision to rule package per public comment resolution/review of implementation guidance**
- **Review/concurrence process for final rulemaking process (meet with ACRS on final rulemaking package)**
- **Schedule - final rulemaking package due to the Commission 6/30/04**



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PUBLIC COMMENTS

- **26 sets of comments comprising approximately 250 comments**
- **Comments received from NEI, numerous industry groups, licensees, public interest groups, states, and nuclear organizations**



OVERVIEW OF PUBLIC COMMENTS

- **Comments reflected a wide range of views on many of the major issues associated with 50.69:**
 - **Divergent interpretations of the rule language and SOC**
 - **States and public interest groups recommend prior NRC review of SSC treatment while industry recommends no prior NRC review**
 - **Stakeholders generally support NRC inspection of 10 CFR 50.69 implementation**
 - **Industry does not support full scope PRA requirements while States and public interest groups recommend full scope PRA**



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STAFF PROPOSAL TO RESOLVE PUBLIC COMMENTS

- **Clarify rule language**
- **Simplify SOC**
- **No prior NRC review of treatment**
- **At a sampling of plants inspect implementation of 10 CFR 50.69 per TI**
- **Conduct public workshop to discuss final rule**



SPECIFIC ISSUES

1. RISC-3 Design Requirement for Fracture Toughness

SOC noted that design requirements for fracture toughness continued to apply for replacement ASME components.

Several industry commenters stated that SOC exceeded rule requirements. One commenter asserted that fracture toughness is not a design issue.

Staff considers fracture toughness to be a design consideration.

Intent of 10 CFR 50.69 is to remove special treatment requirements while maintaining design requirements.

Staff plans to clarify in paragraph (b)(1) of the rule that fracture toughness requirements retained for RISC-3 SSCs.



2. Consistency of RISC-3 Categorization and Treatment

Industry comments indicate that licensees might not consider impact of treatment in categorization process.

South Texas asserts that sensitivity studies eliminate need to specifically consider SSC reliability changes due to treatment.

Westinghouse Owners Group states that cross-system common cause interactions are rarely modeled in PRAs.

Dominion Power indicates that degradation mechanisms resulting from treatment processes are typically not considered in PRAs.

Treatment practices must be consistent with categorization process assumptions and assessment of potential change in risk.

Staff plans to clarify in paragraph (d)(2) of the rule that RISC-3 treatment must be consistent with assumptions credited in categorization process.



3. Application of Voluntary Consensus Standards, Vendor Recommendations, and Operational Experience for RISC-3 SSCs

SOC references use of voluntary consensus standards as an effective means to establish treatment requirements. SECY-00-0194 noted an NRC-sponsored study found too much variation in industrial practices to conclude that such practices will provide reasonable confidence in SSC functionality.

Industry comments indicate that only industrial practices might be applied when implementing treatment requirements for RISC-3 SSCs.

ASME did not recommend adding a provision on voluntary consensus standards in rule because SOC provided adequate guidance for RISC-3 treatment.

Additional stakeholders raised concern that proposed rule was not adequate to maintain plant safety.



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3. Application of Voluntary Consensus Standards cont'

Staff plans to clarify in SOC supporting paragraph (d)(2) that industrial practices might not satisfy rule requirements regarding implementation of processes that provide reasonable confidence in RISC-3 design basis capability.



4. RISC-3 Design Control Attributes

SOC listed several attributes that should be considered as part of design control process in light of only high-level requirements in rule.

Importance of design control reflected in South Texas exemption which maintains Appendix B design control.

NEI suggested a focused list of design control attributes be substituted in 10 CFR 50.69, including selection of suitable materials; verification of design adequacy, and control of design changes.

With simplification of SOC, it may be appropriate to clarify design control attributes in rule.

Staff plans to clarify design control attributes for RISC-3 SSCs in paragraph (d)(2) of the rule to include the NEI suggestion plus the control of installation.



5. RISC-3 Design Capability for Environmental and Seismic Conditions

RISC-3 SSCs will be exempt from special treatment requirements for qualification methods for environmental conditions and effects, and seismic conditions.

RISC-3 SSCs must be capable of performing their safety-related functions under applicable environmental conditions and effects, and seismic conditions.

Some licensees interpret rule as requiring no evaluations of environmental and seismic capability.

NEI states that environmental or seismic requirements for RISC-3 SSCs in 10 CFR 50.69 should be deleted.

NUGEQ states that 10 CFR 50.69 exempts RISC-3 electrical equipment from aging issues, and that rule does not require establishment of design life.



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5. RISC-3 Design Capability Cont'

Staff plans to clarify in rule that licensees must develop and implement documented treatment processes. The staff is not planning to revise design basis language.



6. RISC-3 Corrective Action to Preclude Repetition

NEI recommended revision of rule to address significant conditions adverse to quality such that measures are taken to provide reasonable confidence that cause of condition is determined and corrective action taken to preclude repetition.

New Jersey and NIRS raised concerns regarding apparent lack of consideration of common-cause issues for RISC-3 SSCs.

Staff plans to accept the NEI comment and clarify in paragraph (d)(2) of the rule that measures must be taken for significant conditions adverse to quality for RISC-3 SSCs.



7. Operating Experience Feedback

Commission requested comments on how operational experience should be considered in the rulemaking.

UCS states that relevant operating experience suggests that regulatory oversight of equipment credited with lowering risk should be increased.

Industry commenters believe that ongoing opportunities for sharing experience from existing industry and regulatory programs provide substantial data source for licensees in categorizing SSCs, and recognizing impacts and performance changes.

Staff plans to clarify in paragraph (e)(1) of the rule that licensees must feed back plant operational experience (e.g., corrective action) into processes.



8. Use of Seismic Experience Data

Several industry commenters stated that SOC might create additional burden on plants licensed prior to implementation of Appendix A to 10 CFR Part 100.

SOC needs to clarify that 10 CFR 50.69 will not change seismic design basis for USI A-46 plants, or impose additional seismic requirements.

Industry commenters also raised concerns regarding SOC discussion on use of seismic experience data.

Rule does not change seismic design requirements for RISC-3 SSCs.

Part 100 licensees must comply with technical requirements of Part 100 and have adequate technical bases to conclude that SSCs will perform safety-related functions under seismic design-basis conditions, which includes number and magnitude of earthquake events specified for SSC design.



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8. Use of Seismic Experience Data Cont'

Staff plans to clarify in SOC that 10 CFR 50.69 will not change seismic design basis for USI A-46 plants, or impose additional seismic requirements for those plants.



9. NRC Review of Planned Treatment and Inspection of Implementation

Commission requested comments on NRC review of RISC-3 treatment processes, and whether changes are needed in inspection program.

New Jersey recommends that NRC review planned 10 CFR 50.69 treatment programs.

UCS states that NRC should review treatment and also inspect its implementation.

BWROG asserts that licensees should develop 10 CFR 50.69 processes based on rule requirements with routine NRC inspection verifying acceptable compliance.

NEI states that existing NRC inspection and enforcement process addresses all affected functional areas.



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9. NRC Review of Planned Treatment and Inspection of Implementation Cont'

A sampling of plants will be initially inspected per TI. The ROP is a performance-based and risk-informed program and overall will remain sensitive to conditions that could significantly increase risk.



10. PRA Scope Requirements

Industry commenters do not believe that 10 CFR 50.69 should be dependent on full scope PRA.

Illinois Emergency Management Agency recommends full scope PRA for 10 CFR 50.69 implementation.

New Jersey recommends that NRC review licensee PRAs in depth periodically.

UCS states that rulemaking should not proceed when PRAs require adjustments as indicated in its submittal.

Conference of Radiation Control Program Directors recommends that PRAs be updated and submitted for NRC review.

Staff plans to continue to require Level 1, full power, peer-reviewed PRA for application of 10 CFR 50.69 with prior NRC review of categorization process and concludes this is consistent with the Commission SRM on PRA quality.



11. Crediting SSCs as Part of Selective Implementation

When a licensee selects a system for categorization and categorizes SSCs as “RISC-3” it means other SSCs must be RISC-1 and RISC-2.

What must a licensee do for these “credited” SSCs?

What must the NRC staff review in the PRA to support approval of the categorization process?

The staff plans to clarify the SOC that licensees must maintain credited SSCs (per paragraph (e) and (d)(1)) and that the staff will need to perform a broad review to support categorization approval.



12. 50.46a(b) SCOPED INTO 50.69

Certain provisions within the old § 50.44 were previously identified as containing STRs

The proposed rule noted this situation and indicated that the final rule may “scope-in” these provisions

Head vent requirements from old 50.44 were simply relocated to 50.46a(b) as part of the effort to risk-inform 50.44

The requirements impose Appendix B requirements on reactor vessel head vents

The staff plans to add the Appendix B portion of 50.46a(b) to the list of special treatment requirements within the scope of 50.69.