

10

**From:** Thomas Scarbrough *NKN*  
**To:** R. Michelle Schroll  
**Date:** Tue, Nov 12, 2002 9:05 AM  
**Subject:** Updated Slides for Commission Briefing

Michelle,

Attached are our updated slides for the Commission briefing on November 21.

Thanks for your help.  
Tom

**CC:** David Fischer; David Terao; John Fair

F-8

**Mail Envelope Properties** (3DD10A96.644 : 17 : 36912)

**Subject:** Updated Slides for Commission Briefing  
**Creation Date:** Tue, Nov 12, 2002 9:05 AM  
**From:** Thomas Scarbrough

**Created By:** TGS@nrc.gov

**Recipients**

nrc.gov

owf2\_po.OWFN\_DO  
 DCF CC (David Fischer)  
 DXT CC (David Terao)  
 JRF CC (John Fair)

nrc.gov

owf5\_po.OWFN\_DO  
 RMS1 (R. Michelle Schroll)

**Post Office**

owf2\_po.OWFN\_DO  
 owf5\_po.OWFN\_DO

**Route**

nrc.gov  
 nrc.gov

**Files**

DPV Viewgraphs-TGS-Final.wpd  
 12, 2002 8:59 AM  
 MESSAGE

**Size**

718

**Date & Time**

370775 Tuesday, November  
 Tuesday, November 12, 2002 9:05 AM

**Options**

**Expiration Date:** None  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard



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

**John Fair  
David C. Fischer  
Thomas G. Scarbrough**

**Mechanical and Civil Engineering Branch  
Division of Engineering  
Office of Nuclear Reactor Regulation**

**November 21, 2002**

*Public*  
ML023250 330

## **RISK-INFORMED OPTION 2**

Under Option 2 of NRC risk-informed effort, licensees required to maintain functional capability of safety-related SSCs, including low safety significant SSCs (RISC-3).

Individual RISC-3 SSCs have low safety significance, but small groups of RISC-3 SSCs may be important on a multiple basis.

RISC-3 can include most (possibly 80%) safety-related SSCs.

Treatment has wide range of implications for SSC performance, and categorization process assumes high RISC-3 SSC reliability even with reduced treatment.

Effect of reduced treatment cannot be determined for every SSC by performance monitoring alone.

Minimum set of treatment requirements necessary to provide reasonable confidence that RISC-3 SSCs will be capable of performing safety functions under design-basis conditions.

## **SAFETY CONCERN**

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

## PROPOSED RULE DEVELOPMENT

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

Option 2 condition that RISC-3 SSCs receive sufficient regulatory treatment such that they are expected to meet functional requirements, albeit with reduced assurance;

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

generic studies of commercial practices (NUREG/CR-6752);

comments from stakeholders in letters and at public meetings; and

component engineering experience.

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

## CONSENSUS STANDARDS

The July 31 draft rule included the following requirements:

**RISC-3 treatment processes must meet voluntary consensus standards which are generally accepted in industrial practice, and address applicable vendor recommendations and operational experience.**

**The implementation of these processes and the assessment of their effectiveness must be controlled and accomplished through documented procedures and guidelines.**

# CONSENSUS STANDARDS

(continued)

The bases for these requirements include:

- Voluntary consensus standards are developed by industry experts, with NRC staff participation, to establish well understood risk-informed treatment methods.
- Individual licensees will not have sufficient expertise for all necessary aspects of design, construction, installation, operation, repair, and replacement of RISC-3 SSCs.
- Consideration of operating experience and vendor recommendations important in preventing common-cause problems from impacting multiple SSC functionality.
- Documentation and self-assessments are necessary to provide reasonable confidence that licensees will implement treatment processes effectively.

## DESIGN CONTROL

The July 31 draft rule included the following requirements:

**Replacements for ASME Class 2 and Class 3 SSCs or parts must meet either:**

- (1) the requirements of the *ASME Boiler & Pressure Vessel Code*; or**
- (2) the technical and administrative requirements, in their entirety, of a voluntary consensus standard that is generally accepted in industrial practice applicable to replacement.**

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

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

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

# DESIGN CONTROL

(continued)

These rule requirements provide:

- Reasonable confidence that replacements for ASME Class 2 and 3 SSCs are designed using acceptable criteria.
- Fracture toughness to preclude brittle fracture during design-basis events.
- Documentation to show that design requirements have been met.
- Important aspects of design control while allowing flexibility in implementing 50.69.

## CORRECTIVE ACTION

The July 31 draft rule included the following requirement:

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

The bases for this requirement include:

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

## CONCLUSION AND RECOMMENDATION

### Conclusion:

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

### Recommendation:

Issue for public comment July 31 draft rule that addressed ASME, NEI, and other stakeholder comments; and request comments on further improvements.