

Codes and Standards



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Secretary
 U. S. Nuclear Regulatory Commission
 Washington, DC 20555-0001
 ATTN: Rulemakings and Adjudications Staff

OFFICE OF SECRETARY
 RULEMAKINGS AND
 ADJUDICATIONS STAFF

Subject: Comments on Proposed Rule 10 CFR 50.69, May 16, 2003 (RIN 3150-AG42)
 and Draft Regulatory Guide DG-1121, issued June 6, 2003

Dear Secretary,

The American Society of Mechanical Engineers International (ASME) has reviewed the following information that has recently been issued by the U.S. Nuclear Regulatory Commission (NRC) related to the Proposed Rule 10 CFR 50.69:

- Federal Register, Vol. 68, No. 95, Friday, May 16, 2003 – 10 CFR Part 50, RIN 3150-AG42, *Risk-Informed Categorization and Treatment of Systems, Structures, and Components for Nuclear Power Plants*, including Supplementary Information and §50.69
- Federal Register, Vol. 68, No. 109, Friday, June 6, 2003 – *Draft Regulatory Guide; Issuance, Availability* (for DG-1121)
- Draft Regulatory Guide DG-1121, *Guidelines For Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance*, May 2003

This letter provides comments from the ASME on the above documents.

The references shown at the end of this letter, which were previously issued by the ASME to the NRC, provided our comments and positions on an earlier rulemaking proposal for 10 CFR 50.69, including draft rule language for this risk-informed regulation initiative. Upon review of the NRC documents cited above, the ASME is pleased that our earlier comments have been appropriately considered in these latest rulemaking efforts. In particular, the ASME Code Cases and Codes & Standards that have been developed, and continue to be developed, to support risk-informed applications are not directly referenced in Proposed Rule 10 CFR 50.69, as we requested. The Supplementary Information (Statement of Considerations) for §50.69 and the associated Draft Regulatory Guide DG-1121 do discuss the use of ASME risk-informed Code Cases and Codes & Standards.

Attachment 1 presents ASME positions on four topic areas where public comments are specifically being requested in the Supplementary Information and that are related to ASME Code and Standards. Further comments on how the ASME consensus standards are to be used in the proposed rule §50.69 initiative, according to the information discussed in the Statement of Considerations and in DG-1121, are provided in Attachment 2. Because of a change made by ASME after our earlier comments were provided in the above referenced ASME letters to the NRC, a key comment is cited here.

Code Cases N-658 and N-660 are discussed in the Statement of Considerations and in DG-1121 relative to risk-informed repair/replacement activities. The numbers for these Code Cases were used while these standards actions were under development. However, once the Cases were approved by ASME and were being prepared for formal publication, the Code Case numbers needed to be changed because of an administrative error. To correct the situation, Code Case N-658 was officially issued as Code Case N-660, and former Code Case N-660 was issued as Code Case N-662. Therefore, these new and final Code Case numbers need to be appropriately reflected throughout the Supplementary Information and in DG-1121. We apologize for any confusion that this change may have caused during the proposed rule §50.69 developments.

Rather than specify references to ASME Code Cases in the NRC documents for inspection and testing, it is recommended that the NRC generically reference ASME Codes and Standards as applicable examples of effective voluntary standards that can be used to satisfy many of the requirements of proposed 10 CFR 50.69. The ASME continues to develop and revise its Codes and Standards to serve industry needs. The Code Cases referred to in the Statement of Considerations are just one example. The concern with reference to specific Code Cases is that they are temporary. The ASME is currently working on additional Codes and Standards that are also applicable good examples of similar approaches to satisfying proposed 10 CFR 50.69 such as the OM Code Subsection ISTE and an OM Standard on Treatment of Low Safety Significant Pumps and Valves.

Finally, NRC should consider moving much of the detailed discussion in the Statement of Considerations in the Federal Register for Proposed Rule §50.69 to Draft Regulatory Guide DG-1121. Discussion given in the Supplementary Information reflects current knowledge and is likely to change or will need to be updated from experience that will be gained from implementation of this proposed rule. It should be easier to revise the regulatory guide in the future than to change the rulemaking package if new insights are gained that require changes to the detailed discussion currently in the Supplementary Information. This recommendation would also help one in the reading and understanding of the proposed rule language itself.

Thank you for the opportunity to review and comment on the information related to the Proposed Rule 10 CFR 50.69. As stated in earlier ASME correspondence on this initiative, ASME agrees with risk-informing regulations. The Proposed Rule §50.69 should permit focused stakeholder attention to treatment requirements consistent with

their importance to safety. Should there be questions regarding these comments, please direct them to Mr. Kevin Ennis, ASME Director, Nuclear Codes and Standards at the above address or by phone at 212-591-7075.

Sincerely Yours,



C. Wesley Rowley PE
Vice President, Nuclear Codes & Standards

References:

1. Letter from John H. Ferguson, Vice President, ASME Nuclear Codes & Standards to Secretary, U.S. Nuclear Regulatory Commission Rulemakings and Adjudications Staff, *Comments on 10 CFR 50.69 Rulemaking Proposal*, dated December 20, 2001
2. Letter from John H. Ferguson, Vice President, ASME Nuclear Codes & Standards to Mr. Samuel J. Collins, Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, *Comments on 10 CFR 50.69 Draft Rule Languages as of April 3, 2002*, dated June 3, 2002
3. Letter from C. Wesley Rowley, Vice President, ASME Nuclear Codes & Standards to Mr. Samuel J. Collins, Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, *Supplementary Comments on 10 CFR 50.69 Draft Rule Languages dated April 3, 2002*, dated June 17, 2002
4. Letter from C. Wesley Rowley, Vice President, ASME Nuclear Codes & Standards to The Honorable Richard A. Meserve, Chairman, U.S. Nuclear Regulatory Commission, *ASME International Developments Related to Risk-Informed Regulation*, dated October 22, 2002

Cc: Members, ASME Board on Nuclear Codes and Standards
Members, ASME BNCS Risk Management Task Group

Attachment 1

**ASME POSITIONS ON
TOPICS WHERE PUBLIC COMMENTS ARE SPECIFICALLY REQUESTED**

During the ASME review, four topic areas are noted where public comments are specifically being requested in the Statement of Considerations and that are related to ASME Codes and Standards. The ASME Board on Nuclear Codes and Standards (BNCS) reviewed the topics and approved positions on each of them as follows:

1. VI.1.0 Additional Potential Requirements for Public Comment – (2) RISC-3 SSCs Use of Voluntary Standards for Treatment of RISC-3 SSCs

Should the following language be placed back in Proposed Rule §50.69?

“These 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. The treatment processes must be consistent with the assumptions credited in the categorization process.”

ASME Position: No, the statements of consideration in the Supplementary Information provide adequate guidance.

2. VI.1.0 Additional Potential Requirements for Public Comment – (2) RISC-3 SSCs Replacement of ASME Class 2 and Class 3 RISC-3 SSCs

Should the following language be placed back in Proposed Rule §50.69?

“Replacements for ASME Class 2 and Class 3 SSCs or parts must meet either: (1) The requirements of the ASME Boiler & Pressure Vessel (BPV) 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.”

ASME Position: No, ASME has developed appropriate requirements for repair/replacement of pressure-retaining items that could be used by licensees in the treatment of RISC-3 SSCs. These ASME requirements are contained in ASME Code Case N-662.

3. VI.2.1 PRA Requirements

"The proposed rule requires, as a minimum, a PRA that includes internal events, at power, which has been subjected to a peer review process.... Proposed §50.69 allows licensees to use non-PRA methods to address other modes and hazards in the categorization process... (Should) the NRC amend the requirements in §50.69(c) to require a level 2 internal and external initiating events, all-mode, peer-reviewed PRA that must be submitted to, and reviewed by, the NRC."

ASME Position: No, ASME recommends that the minimum requirements for PRA scope not be extended beyond an analysis of internal events (excluding internal fire) capable of evaluating CDF and LERF. Consensus standards are not yet available to support the expanded scope.

4. VI.2.2 Review and Approval of Treatment for RISC-3 SSCs

"In the proposed rule, the Commission is proposing to review and approve the categorization process to be used by the licensee. For treatment requirements, the proposed rule sets forth high-level requirements, and does not require NRC review and approval of specific processes a licensee would implement to meet these requirements." Should there be a requirement added for the "NRC review and approval of the licensee's proposed treatment program for RISC-3 SSCs?"

ASME Position:

- i. If §50.69 remains silent on the use of voluntary consensus standards, ASME has no position on prior NRC review and approval
- ii. If §50.69 provides consideration for the use of voluntary consensus standards, ASME does not recommend prior NRC review and approval

Attachment 2

ADDITIONAL ASME COMMENTS

Further ASME comments on the proposed rule 10 CFR 50.69 documents as cited in the cover letter are provided below.

10CFR 50.69 Input on PRA Standards

VI. 2.1 PRA Requirements (Page 26546)

ASME supports a continuing process of extending the scope and capability of PRAs used for risk-informed decision-making by commercial nuclear power plant licensees and recognition of these developments by the Commission. However, ASME recommends that requirements for PRA scope not be extended beyond what is currently defined in the proposed 10CFR50.69. In order to encourage use of risk-informed approaches, industry should be allowed to use their existing peer reviewed PRAs, in conjunction with an independent decision-making panel (IDP) process, to perform the requisite SSC risk evaluations. Many risk-informed decisions involving differentiation of RISC-1 and RISC-3 SSCs can be made with adequate precision without the need for a full-scope PRA. Even with a so-called "full-scope" PRA, the Option 2 process, consistent with the philosophy of risk-informed decision-making, uses PRA results as an input to the deterministic IDP evaluation to account for factors beyond the scope of the PRA and limitations in the level of detail.

At present, the only completed national consensus standard addressing PRA quality (i.e., technical adequacy) is ASME RA-S-2002, issued in April 2002. This standard, to be amended in 2003, covers determination of CDF and LERF for internal events (excluding internal fire) at power and is scheduled for endorsement (with selected qualification) by NRC via draft Regulatory Guide-1122 (DG-1122). A similar scope has been employed in the NEI guidelines for peer review of existing plant-specific PRAs and this is also in the process of receiving NRC endorsement through DG-1122.

ASME and other standards developers have plans for expanding the scope of existing PRA-related standards or preparing additional standards. Ultimately, it is expected that endorsed standards would cover PRA, or other recommended means of addressing risk-informed decision-making, in areas such as: external events, low power and shutdown, internal fire, full-scope Level 2, and possibly extension to Level 3. Some of these could require extensive time and extraordinary effort to achieve consensus approval, adoption by industry, and acceptance by NRC. These standards will be helpful in setting a reasonably consistent set of practices and reducing the extent of detailed NRC oversight and they should facilitate development of cost-effective approaches. However, they should not become minimum requirements for entering into the process. ASME has been issuing risk-informed in-service inspection and in-service testing Code Cases for several years without reference to specific PRA quality requirements. The Maintenance Rule (and other regulated activities) have become risk-informed in a similar fashion.

ASME recommends that, rather than requiring expanded PRA scope in 10CFR50.69, the most appropriate way to address expansion of PRA scope would be through future endorsement of these standards in Regulatory Guides.

10 CFR 50.69 Input on Inservice Testing (IST)

1. IST Treatment for RISC-2 SSCs.

Treatment requirements for RISC-2 SSCs are addressed in 10 CFR 50.69(d)(1) and Statement of Considerations V.5.1. Requirements for RISC-2 SSCs include:

- a) Assessment of the capability of the SSC to perform its function credited in the PRA, and
- b) Assessment of current treatment to assure they are consistent with safety-significant categorization assumptions and assumed performance.

Specific IST requirements are not defined.

ASME agrees with the proposed lack of specific IST requirements for RISC-2 SSCs. The current ASME Code Cases have the same IST requirements for high safety significant components, which are equivalent to RISC-1 and RISC-2 SSCs in proposed rule §50.69.

2. Use of ASME Code Cases in the Statement of Considerations

Statement of Considerations V.5.2.3 refers to the use of applicable ASME Code Cases as an example of an effective approach to satisfying the §50.69(d)(2)(iii) Maintenance, Inspection, Test, and Surveillance Process activities.

ASME agrees with the need for periodic maintenance, inspection, test, and examination activities to provide confidence in the operational readiness of RISC-3 SSCs. However, ASME believes that current industry practice, including the use of applicable ASME Codes and Standards and Code Cases, is an example of an effective approach to satisfy the proposed 10 CFR 50.69(d)(2)(iii).

10 CFR 50.69 Input on ASME Repair/Replacement Activities

V.4.2.1/V.4.2.2 – Supplementary Information (Pg. 26537) and Item 21 - DG-1121 (Pg.12) – Initiating Events, Plant Operating Modes, and SSCs Not Modeled in the PRA

When initiating events, plant operating modes, and SSCs are not modeled in the PRA, other means are needed to determine the safety significance to meet §50.69(c)(1). The above noted sections in the Supplementary Information of the proposed Rule and the draft Regulatory Guide identify eleven elements to be evaluated by the integrated decision-making panel (IDP) in assessing the safety significance of the impacted SSCs.

During the trial application of an early draft of ASME Code Case N-660 in pilot plant efforts, improvements to the Code Case for categorization of piping (and related components) were identified and fed back into the Code development process, as noted in Section IV.3.0 of the Supplementary Information. Some of these cited improvements dealt directly with the above eleven elements of interest.

The eleven elements, shown in the Supplementary Information and the draft Regulatory Guide, do not reflect the experience that was fed back into the Code development process to finalize ASME Code Case N-660. For example, element (9) states that – *“The IDP should assess the safety significance of these SSCs by determining if – The SSC is depended upon in the Emergency Operating Procedures or the Severe Accident Management Guidelines.”* When this statement was applied in the trial application of the Code Case, the IDP stated that many SSCs would need to be identified as safety significant, obviating the benefit of the risk-informed safety classification process. This element in ASME Code Case N-660 was changed to read – *“...The piping segment (SSC) supports a significant mitigating or diagnostic function addressed in the Emergency Operating Procedures or the Severe Accident Management Guidelines.”* The pilot plants and the ASME believe that this change narrows the affected population of SSCs that are determined to be safety significant because of this condition.

In summary, the eleven elements in the Statement of Considerations for §50.69 and DG-1121 should be reviewed and modified accordingly so that there is consistency between the regulatory documents and ASME Code Case N-660 for the stated conditions to be considered by the IDP.