

February 25, 2002

MEMORANDUM TO: Eugene Imbro, Chief
Mechanical and Civil Engineering Branch
Division of Engineering

THRU: David Terao, Chief */RA/*
Component & Containment Reliability Section
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SUBJECT: SUMMARY OF PUBLIC MEETING TO DISCUSS ISSUES RELATIVE TO
INCLUSION OF 10 CFR 50.55a IN RISK-INFORMED 10 CFR 50.69
RULE

On February 21, 2002, the NRC staff held a public meeting with stakeholders to discuss the issues relative to the inclusion of Section 55a of Part 50 to Title 10 of the *Code of Federal Regulations* (10 CFR 50.55a) in 10 CFR 50.69 as part of Option 2 of the NRC's effort to risk inform its regulations. The NRC regulations in 10 CFR 50.55a incorporate by reference Sections III and XI of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* (BPV Code) and the ASME *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code), and also certain standards developed by the Institute of Electrical and Electronics Engineers (IEEE). Participants at the meeting included NRC staff members; representatives of ASME and the Nuclear Energy Institute (NEI); and members of the nuclear industry and public. Attachment 1 provides a list of the meeting participants.

The purpose of the meeting was to gather information to assist the NRC staff in reaching a decision on the exemption from 10 CFR 50.55a for low-risk safety-related structures, systems, and components (SSCs) in the proposed 10 CFR 50.69 rule. In particular, the staff is determining whether (1) to reduce burden in the implementation of 10 CFR 50.55a for low-risk safety-related SSCs through use of the ASME risk-informed Code Cases, or (2) to exempt low-risk safety-related SSCs from the 10 CFR 50.55a requirements and rely on the processes specified in 50.69 for treatment of these SSCs. Success of the meeting was indicated to be for the staff and stakeholders to have a better understanding of the issues associated with 10 CFR 50.55a. The question of whether or not to provide an exemption from 10 CFR 50.55a for low-risk safety-related SSCs is one of the most important issues remaining to resolve in the 10 CFR 50.69 rulemaking process. A spectrum of views regarding the application of 10 CFR 50.55a exists among the staff and stakeholders. Three principal alternatives regarding the application of 10 CFR 50.55a to low-risk safety-related SSCs are (1) retain 50.55a in its

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entirety; (2) exempt 50.55a entirely; and (3) partially exempt 50.55a as appropriate to incorporate the substantial progress ASME has made in risk-informing its Codes. The regulatory requirements in 10 CFR 50.55a are highly complex and encompass both design and special treatment requirements. In 10 CFR 50.55a, Section III of the ASME BPV Code is incorporated by reference for design and fabrication of piping and pipe supports; pressure vessels; steel and concrete containments; and reactor internals. Section XI of the ASME BPV Code is incorporated by reference for inservice inspection of piping and supports; pressure vessels; reactor internals; repair, replacement, and modification of SSCs; flaw evaluation; welding; and pressure testing. The ASME OM Code is incorporated by reference for inservice testing of pumps, valves, and snubbers. The IEEE 279 and 603 standards are incorporated by reference for functional and design requirements applicable to plant protection and safety systems. The exemption of 10 CFR 50.55a from low-risk safety-related SSCs has broad implications that need to be fully understood, particularly if the scope of 10 CFR 50.69 is extended to new applicants, as well as current license holders.

The NRC staff presented an overview of Option 2 of the effort to risk inform the NRC regulations and discussed the status of the 10 CFR 50.69 rulemaking. Attachment 2 includes the NRC staff presentation slides. The presentation emphasized that only special treatment requirements are being considered for removal from low-risk safety-related SSCs. The design basis and technical requirements for low-risk safety-related SSCs will continue to be retained under Option 2. In addition to requirements in 10 CFR 50.55a, special treatment requirements being considered for removal from low-risk safety-related SSCs include those specified in 10 CFR Part 21; 10 CFR 50.49, 65, 72, and 73; 10 CFR 50, Appendices B and J; and 10 CFR Part 100. The draft 10 CFR 50.69 language for the treatment of low-risk safety-related SSCs was indicated to focus on four main processes to control design; procurement; inspection, maintenance, testing, and surveillance; and corrective action.

John Ferguson, Vice President, ASME, led the discussion of ASME Code activities that may assist in the development of 10 CFR 50.69. Attachment 3 includes the ASME presentation slides. Mr. Ferguson discussed the mission of the ASME with respect to the development of Codes and Standards; the organization of the ASME; and the process for development and approval of ASME Codes and Code Cases. The intent of the ASME Code process is to establish a uniform approach for design, construction, inspection, and testing of SSCs used in nuclear power plants based on the consensus decisions of technical experts. This uniform approach is intended to minimize the variability of individual approaches. Mr. Ferguson stated that, at this time, ASME does not have a single position on the consideration of 10 CFR 50.55a in the 50.69 rulemaking, because of the significant differences of opinion among its members on the issue in terms of safety and burden. ASME will consider developing a position following issuance of the proposed 50.69 rule for public comment. ASME is continuing to prepare Code Cases to reduce burden on licensees for low-risk safety-related SSCs.

Ken Balkey, a member of the ASME Board on Nuclear Codes and Standards, presented the status of the ASME efforts to develop risk-informed Code Cases to reduce unnecessary burden for low-risk safety-related SSCs. Mr. Balkey noted that care must be taken in exempting 10 CFR 50.55a in whole or in part for low-risk safety-related SSCs because of the complexity of this regulation. He stated that the limitations imposed by the NRC on the ASME Code and Code Cases, and the time period required to obtain approval for the use of new ASME Code editions and addenda and Code Cases, constitute burden to licensees. Mr. Balkey indicated that there is a concern that the requirements of 10 CFR 50.55a might invoke 10 CFR 50,

Appendix B, for quality assurance (QA) requirements to be applied to low-risk safety-related SSCs. In response to this concern, the NRC staff agreed that the 50.69 rulemaking needs to clarify that the QA requirements in Appendix B will not be applicable to low-risk safety-related SSCs. Mr. Balkey emphasized the importance of timely approval of use of ASME risk-informed Code Cases to reduce unnecessary burden from the performance of tests or inspections on low-risk safety-related SSCs. Mr. Balkey noted that ASME has not fully evaluated the implications of using a risk-informed approach for Section III design requirements. In discussing the status of the risk-informed Code Cases, Mr. Balkey indicated that this effort for inservice testing of pumps and valves, and nondestructive examination of piping, is essentially complete while the effort for SSC repair and replacement is about 90% complete. Other areas being addressed by risk-informed Code Cases are less advanced in their completion. In response to a question on categorization, Mr. Balkey noted that the Section XI Code Case for repair and replacement addresses passive components that are not handled well in most probabilistic risk assessments. For the OM Code Cases, a single categorization process has been developed that would be replaced by the 10 CFR 50.69 process when implemented by a licensee. As additional components are included in the risk-informed categorization, Mr. Balkey stated that licensees must address the integrated risk in accordance with Regulatory Guide 1.174. Mr. Balkey emphasized that ASME has a dedicated risk management approach in reducing the treatment for low-risk safety-related SSCs. Mr. Balkey stated that discussions within ASME have revealed that some members want to be confident that standards are available for licensees to apply to low-risk safety-related SSCs. ASME plans to continue to prepare risk-informed Code Cases and believes NRC should continue to review and accept them. As a side issue, it was noted that ASME needs to have sufficient participation to prepare technically valid Codes and Standards, and the elimination of 10 CFR 50.55a for low-risk safety-related SSCs could have an impact on such participation.

Tony Pietrangelo presented NEI's views on the inclusion of 10 CFR 50.55a within the scope of 10 CFR 50.69. Attachment 4 provides the NEI presentation slides. As NEI considers 10 CFR 50.55a to be a special treatment requirement, NEI believes that 10 CFR 50.55a should be included within the scope of 10 CFR 50.69, consistent with the Option 2 plan to remove special treatment requirements for low-risk safety-related SSCs. NEI views the ASME risk-informed Code Cases as independent of 10 CFR 50.69 and to be part of the Option 1 approach to risk-informing regulatory requirements. NEI asserted that the continued application of 10 CFR 50.55a to low-risk safety-related SSCs would be inconsistent with the Option 2 approach for removing "how to" requirements. NEI suggested that imposing Code provisions on low-risk safety-related SSCs through 10 CFR 50.55a would not address any safety issues. NEI believes that licensees will voluntarily apply the ASME Code and Code Cases to low-risk safety-related SSCs if those SSCs are exempt from the requirements of 10 CFR 50.55a. NEI indicated that the application of 10 CFR 50.55a imposed various burdens on the NRC and licensees, including interpretations of the rule and regulatory guidance; preparation and review of relief requests; and documentation, inspection and compliance. In support of this argument, NEI provided examples of the comparative costs of several types of valves and operators in terms of (1) safety-related, (2) dedicated, and (3) nonsafety-related categories. The cost comparison indicates a significant savings between safety-related and nonsafety-related components. An industry representative noted that the cost savings provided by the ASME risk-informed Code Case for repair and replacement activities would be similar. It was indicated that IEEE is only in the beginning stages of developing risk-informed approaches to the treatment of electrical equipment.

Beyond the discussions described above, additional comments related to the consideration of 10 CFR 50.55a in the 50.69 rulemaking were provided by the meeting participants. For example, the question of whether the NRC should interfere in the marketplace with respect to low-risk safety-related SSCs was mentioned. It was noted that, contrary to NEI's belief, licensees might not voluntarily apply the ASME Code and Code Cases if granted an exemption from 10 CFR 50.55a. Also, the wide range of practices applied to the treatment of nonsafety-related SSCs was discussed, including the question of whether reliance on such practices would provide reasonable confidence in SSC functionality. The participants discussed the level of treatment that might be applied to low-risk safety-related SSCs, and noted that the specific treatment level might depend on the individual low-risk safety-related SSC being evaluated. Further, a point was raised as to whether the categorization process could be revised to resolve the concern for the wide range of treatment that might be applied to low-risk safety-related SSCs. One participant noted that the treatment of low-risk safety-related SSCs should be resolved prior to applications for new plant designs, such as the Pebble Bed Modular Reactor design.

In summary, the public meeting revealed that, at this time, ASME does not have a single position on the consideration of 10 CFR 50.55a in the 50.69 rulemaking, because of the significant differences of opinion among its members on the issue in terms of safety and burden. ASME will consider developing a position following issuance of the proposed 50.69 rule for public comment. ASME is continuing to prepare Code Cases to reduce burden on licensees for low-risk safety-related SSCs. NEI considers the requirements in 10 CFR 50.55a to represent an unnecessary burden for licensees and NRC. NEI believes the proposed requirements in the draft 50.69 rule provide sufficient regulatory assurance for low-risk safety-related SSCs. At the conclusion of the meeting, ASME, NEI, and the NRC staff stated that the discussions had been helpful in understanding the issues, and revealing an opportunity to move forward to incorporate risk insights in the regulatory requirements for low-risk safety-related SSCs. The NRC staff will consider the information obtained during the public meeting in preparing proposed 10 CFR 50.69 for public comment.

Attachments:

1. Attendance List
2. NRC Staff Presentation Slides
3. ASME Presentation Slides
4. NEI Presentation Slides

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