

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

August 8, 2005

**NRC REGULATORY ISSUE SUMMARY 2005-17
CLARIFICATION OF REQUIREMENTS FOR APPLICATION OF THE
ASME CODE SYMBOL STAMP ON SAFETY-RELATED COMPONENTS**

ADDRESSEES

- (A) Organizations whose standard plant designs have been certified under Subpart B of 10 CFR Part 52.
- (B) All holders of operating licenses for nuclear power reactors, except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

INTENT

The U.S. Nuclear Regulatory Commission (NRC) is issuing this regulatory issue summary (RIS) to clarify the requirements for applying the American Society of Mechanical Engineers (ASME) Code symbol stamp to ASME Code, Class 2 and 3 components designed and constructed to the requirements of Title 10 of the Code of Federal Regulations (CFR), Part 50, Sections 50.55a(d)(1) and 50.55a(e)(1), respectively.

BACKGROUND INFORMATION

As a result of recent activities involving ASME Boiler and Pressure Vessel Code ("ASME Code" or "Code") certification of Code Section III, Class 3 components, an inconsistency was discovered between the 10 CFR 50.55a requirements and NRC Regulatory Guide (RG) 1.26 guidelines on the necessity for using the ASME Code symbol stamp in the Code certification process. The NRC staff is issuing this RIS to clarify regulatory requirements for use of the ASME Code symbol stamp for existing and future design certifications and future applications for construction permits and combined licenses (COLs).

Section 50.55a governs the use of codes and standards, including the ASME Code, for design, fabrication, testing, and inspection of nuclear power plant structures, systems, and components (SSCs) that have a safety-related function. Guidance on classifying SSCs into quality groups, including assigning codes and standards applicable to each quality group, is given in NRC RG 1.26, "Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants."

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NRC's quality group classification system has four quality groups, A through D. The system assigns components to these quality groups and specifies appropriate design standards for each group. Sections 50.55a(c)(1), (f)(1) and (g)(1) require that components of the reactor coolant pressure boundary be designed, fabricated, tested, and inspected to ASME Code, Section III, Class 1 requirements, which are equivalent to the Quality Group A requirements discussed in RG 1.26. ASME Code, Section III is also identified in RG 1.26 as the quality standard applicable to the design of specific components classified as Quality Group B and Quality Group C components. ASME Code, Section III, Class 2 requirements are applicable to design of Quality Group B components, and ASME Code, Section III, Class 3 requirements are applicable to Quality Group C components. The RG 1.26 Quality Group B and C classifications are consistent with the requirements of 10 CFR 50.55a(d)(1) and 10 CFR 50.55a(e)(1), respectively.

The ASME Code requires that an item be identified with a Code symbol stamp to certify that the item has been found to meet all of the specified ASME Code, Section III requirements. The ASME Code specifies requirements for ASME certificate holders and also requires specific inspections and verifications of records by an "independent authorized inspection agency."

The initial 10 CFR 50.55a rule, issued on June 12, 1971 (36 FR 11423), required that design of certain reactor coolant pressure boundary components comply with the ASME Code, Section III, Class 1 requirements, with one notable exception. Section 50.55a(b) then explicitly stated that an ASME Code symbol stamp need not be applied to components constructed to Code requirements. Section 50.55a(b)(2) permitted inspection and quality surveillance systems other than those specified by ASME if they provided an acceptable level of quality and safety. The reason for the exception was that there was no provision at the time for foreign manufacturers to comply with the administrative enforcement provisions of the Code (See 49 FR 9712). Consequently, foreign suppliers that were fully qualified in other respects could not be authorized to apply a Code symbol stamp to components and were excluded from supplying components for domestic nuclear power plants. Following implementation of the 1971 rule, this situation changed, and foreign suppliers were subsequently authorized by the ASME to apply Code symbol stamps.

Revision 3 to RG 1.26, issued for comment in 1976, also stated that the Code symbol stamp need not be applied to Quality Group B and C components consistent with the initial 10 CFR 50.55a rule. Specifically, Footnote b of Table 1 in RG 1.26 states that the ASME Code N-Symbol Stamp need not be applied to Quality Group B components (constructed to ASME Code, Section III, Class 2 requirements), or to Quality Group C components (constructed to ASME Code, Section III, Class 3 requirements). RG 1.26 Table 1 does not address the Quality Group A classification because those requirements are addressed in 10 CFR 50.55a and in 10 CFR, Part 50, Appendix A, General Design Criterion 1.

On March 15, 1984, the Commission promulgated a final rule amending 10 CFR 50.55a to require, among other things, the use of the ASME Code symbol stamp for construction of reactor coolant pressure boundary (Quality Group A) components (49 FR 9711). The amendment also incorporated by reference the ASME Code, Section III, Class 2 and Class 3 requirements for design and fabrication of Quality Group B and C components, respectively. The amendment to 10 CFR 50.55a effectively required the use of the ASME Code symbol stamp for components constructed to ASME Code, Section III, Class 1, 2, and 3 requirements.

Nevertheless, RG 1.26 has not been revised since Revision 3 was issued for comment in 1976, including Footnote b in Table 1, which states that the Code symbol stamp need not be used for Quality Group B or C components. Although no construction permits affected by this apparent inconsistency have been issued in the United States since 1984, the issue is relevant for the design certifications that have been, or may in the future be, issued under 10 CFR Part 52, Subpart B, and to future construction permit or COL applications. The staff is issuing this RIS to clarify the regulatory requirements for ASME Code symbol stamping for past and future design certifications and for future construction permits and COL applications.

SUMMARY OF ISSUE

The regulations in 10 CFR 50.55a require that Quality Group A, B, and C components of nuclear power plants whose application for a construction permit or COL is docketed after May 14, 1984, conform to the applicable requirements of the ASME Code, Section III, including the requirement to use the Code symbol stamp to certify that a component meets the Code requirements. The guidance in Footnote b to RG 1.26, Table 1 has been superseded by the revised regulations and should not be used. A future, unscheduled revision of RG 1.26 will remove Footnote b to Table 1 to be consistent with current regulatory requirements. The reference to RG 1.26 in Footnote 9 of 10 CFR 50.55a(d)(1) and (e)(1) is provided for guidance only and does not impose regulatory requirements. The provisions of RG 1.26 have not been specifically approved for incorporation by reference into the regulation.

In the staff's view, the use of the ASME Code symbol stamp, as required in ASME Code, Section III NCA-1210, NCA-3570, NCA-3670, and NCA-3770, provides a suitable means of traceability between an installed safety-related component and the Code data reports required to certify that the component has been designed and fabricated in accordance with the applicable requirements of the ASME Code. Therefore, ASME Code symbol stamping is an acceptable method for fulfilling the 10 CFR Part 50, Appendix B, quality assurance requirement to provide a means of controlling the quality of a component in accordance with predetermined requirements, as specified in 10 CFR Part 50, Appendix B, Criterion VIII, "Identification and Control of Materials, Parts, and Components." The staff concludes that using the ASME Code symbol stamp in accordance with the ASME Code requirements specified in 10 CFR 50.55a(d)(1) and 50.55a(e)(1) is consistent with both 10 CFR Part 50, Appendix A, General Design Criterion 1, and with the 10 CFR Part 50, Appendix B quality assurance program requirements. To the extent that the RG 1.26 guidance on ASME Code symbol stamping is inconsistent with the regulatory requirements in 10 CFR 50.55a, the Section 50.55a requirements control. The other guidance in RG 1.26 on the quality group classification system for safety-related components, excluding the Quality Group B and C Code symbol stamping issue and the classification of auxiliary feedwater systems in pressurized water reactors and safety/relief valve discharge systems in boiling water reactors, is considered to be consistent with existing 10 CFR 50.55a requirements (see 47 FR 15802, dated April 13, 1982).

Similarly, there is the potential for misinterpretation of requirements in Appendices A, B, and C to 10 CFR Part 52. In each appendix in which a standard plant design is certified by rule, there is a statement in Section III.A. that Tier 1 and Tier 2 requirements and the generic technical specifications are approved for incorporation by reference. Each rule states in Section III.B. that an applicant or licensee referencing the appendix must comply with the requirements of the

appendix including Tier 1 and Tier 2 requirements, and the generic technical specifications, except as otherwise noted in the appendix. For each of the three existing certified designs, compliance with RG 1.26 (including Footnote b to Table 1) is a Tier 2 requirement. Inasmuch as compliance with 10 CFR 50.55a is a Tier 1 requirement for all three designs, the Tier 1 requirements will control (in accordance with Section III.C of Appendices A, B, and C to 10 CFR Part 52). The same would be true for future certified designs, to the extent that compliance with Section 50.55a is expected to be a Tier 1 requirement for such designs. After a design certification is issued, changes to or departures from Tier 1 and Tier 2 requirements are governed by the processes required in Section VIII of Appendices A, B, and C to 10 CFR, Part 52.

BACKFIT DISCUSSION

This RIS requires no action or written response and is, therefore, not a backfit under 10 CFR 50.109. Consequently, the staff did not perform a backfit analysis.

FEDERAL REGISTER NOTIFICATION

A notice of opportunity for public comment on this RIS was not published in the *Federal Register* because the RIS is informational and concerns a staff position that does not depart from current regulatory requirements and practice.

SMALL BUSINESS REGULATORY ENFORCEMENT FAIRNESS ACT OF 1996

The NRC has determined that this action is not a new rule and therefore is not subject to the Small Business Regulatory Enforcement Fairness Act of 1996.

PAPERWORK REDUCTION ACT STATEMENT

This RIS does not contain an information collection request and therefore is not subject to the requirements of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.).

CONTACT

Please direct any questions about this matter to the technical contact listed below, or to the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

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Note: NRC generic communications may be found on the NRC public Web site, <http://www.nrc.gov>, under Electronic Reading Room/Document Collections.