

NRC INSPECTION MANUAL

EMCB

PART 9900: TECHNICAL GUIDANCE

ASME3&11.TG

AMERICAN SOCIETY OF MECHANICAL ENGINEERS BOILER AND PRESSURE VESSEL CODE, SECTIONS III & XI

A. PURPOSE

To provide guidance on the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Sections III and XI, as it relates to Code Interpretations, use of engineering judgement, and flaw evaluation.

B. BACKGROUND

Questions were identified by the NRC staff, NEI (on behalf of the industry), and a concerned citizen, regarding the Code issues identified above. This directive discusses the existing regulatory positions related to these issues and provides inspection guidance for these areas.

C. DISCUSSION

Code Interpretations

ASME Code Sections III and XI are incorporated by reference into Section 50.55a of Title 10 of the Code of Federal Regulations (10 CFR 50.55a). To date, the ASME Code Sections III and XI through the 1989 edition, including the 1988 Addenda, have been approved for use by the NRC. The Section III and Section XI Code Cases that have been deemed suitable for use are included in the latest revisions of Regulatory Guides 1.84, 1.85 and 1.147. The use of other Code Cases may be authorized by the Director, Office of Nuclear Reactor Regulation (NRR), upon request pursuant to 10 CFR 50.55a(a)(3). ASME Code Interpretations are not incorporated into the Code of Federal Regulations and, therefore, the NRC is not bound by these interpretations.

Generally, the NRC and the ASME agree to the meaning of Sections III and XI. The NRC had a certain understanding of the Code when it incorporated the Code into the Regulations. While the NRC acknowledges that the ASME is the official interpreter of the Code, the Regulations transcend the Code. Of particular concern are Code

Interpretations that may be issued following initiation of enforcement action by the NRC. If inspectors identify Code issues that result in a disagreement with the licensee or if an official Code Interpretation is identified by an inspector that appears to either conflict with or be inconsistent with NRC requirements (such as the regulations), a license condition, a technical specification, an NRC order, or to the expressed purpose of the

protection of public health or safety, the identified item should be sent, via Task Interface Agreement (TIA), to NRR for guidance and interpretation.

Engineering Judgement

The Foreword to ASME Sections III and XI was amended in the 1992 edition, 1992 Addenda, to include the following:

This Code contains mandatory requirements, specific prohibitions, and non-mandatory guidance for construction, and inservice inspection and testing activities. The Code does not address all aspects of these activities and those which are not specifically addressed should not be considered prohibited. The Code is not a handbook and cannot replace education, experience, and the use of engineering judgement. The phrase "engineering judgement" refers to technical judgements made by knowledgeable engineers experienced in the application of the Code. Engineering judgements must be consistent with Code philosophy and such judgements must never be used to overrule mandatory requirements or specific prohibitions of the Code.

The NRC has not endorsed the above stated Code edition or Addenda into the regulations and, therefore, the revised Foreword is not a part of the regulations. The NRC recognizes that analyses, evaluations and engineering judgement in lieu of the specific evaluation and analysis methods contained in Sections III and XI may be appropriate. The regulations in 10 CFR 50.55a(a)(3) provide for the use of alternatives to those endorsed in 10 CFR 50.55a when authorized by the Director, NRR. The use of alternatives without following the regulatory process (i.e., submittal for NRC review and approval) is considered a non-compliance with the regulations.

Timeliness of Flaw Evaluations

For flaws that exceed the acceptance standards of IWB-3500 and are subsequently analyzed and found acceptable in accordance with IWB-3600 of the ASME Code, then Section XI, IWB-3600 states in part that the evaluations are "subject to the review of the regulatory authority having jurisdiction at the plant site". This is a requirement of 10 CFR 50.55a by virtue of endorsement of the ASME Code provision. Although there is no specific requirement in the Regulations defining the timeliness of corrective actions, Criterion XVI of Appendix B to 10 CFR Part 50 requires it to be "prompt". Generic Letter (GL) 91-18 states the timeliness of the corrective action is determined by the safety significance of the issue. GL 91-18 states that the Allowed Outage Times (AOTs) contained in the technical specifications generally provide reasonable guidelines for safety significance. GL 91-18 also provides guidance for operability determinations associated with flaw evaluations. It should be noted that many systems are not required to be operable by the technical specifications during refueling or while in cold shut-down.

Historically, the NRC staff's practice has been to review and, if found acceptable, approve licensee's analytical flaw evaluations prior to plant restart. However the NRC staff has learned that some licensees have been including flaw evaluations as a part of their ASME Code outage report, which is required to be submitted within 90 days of the completion of the refueling outage. While there is no requirement that a licensee submit their flaw evaluation for review and approval prior to restart, if the licensee does not and the flaw analysis is subsequently found unacceptable by the NRC staff, the licensee risks operating his facility in a condition where the system would be considered unanalyzed and, therefore, inoperable. This could constitute non-compliance with the regulations and the technical specifications and the licensee would be required to follow the technical specifications consistent with safety system AOTs.

D. CONCLUSIONS

1. If inspectors identify Code issues that result in a disagreement with the licensee, or if an official Code Interpretation is identified by an inspector that appears to conflict or is inconsistent with NRC requirements such as the regulations, a license condition, a technical specification, an NRC order, or to the expressed purpose of the protection of public health or safety, the item should be sent via TIA to NRR for guidance and interpretation.
2. When analyses, evaluations and engineering judgement are used in lieu of specific evaluation and analyses methods explicitly required by Section III or Section XI of the ASME Code or those that may be contained in an ASME Code Case approved for use in 10 CFR 50.55a, licensees must request review and approval by the NRC for alternatives to the code requirements in accord with provisions in 10 CFR 50.55a(a)(3).
3. If a licensee submittal is not "prompt" and the flaw analysis is subsequently found unacceptable by the staff, the licensee risks operating his facility in a condition where the system could be considered unanalyzed and, therefore, inoperable. This could constitute non-compliance with the regulations and the technical specifications and the licensee would be required to follow the technical specifications with regard to safety system AOTs.

E. REFERENCES

The guidance provided in this document was extracted from the following:

1. Letter from W.T. Russell, Director, NRR, to Mr. R.E. Reedy dated February 20, 1996. DCS Accession number - 9602260101
2. Letter from J.E. Taylor, EDO, to Mr. R.E. Reedy dated June 12, 1996. DCS Accession number - 9606210253

3. Memorandum from J.R. Strosnider, Chief, EMCB, to H.N. Berkow, Director, PD II-2, dated June 18, 1996. DCS Accession number - 9606250131
4. Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability," dated October 31, 1991. DCS Accession number - 9111040293

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