

TECHNICAL LETTER REPORT ON THE
FIRST 10-YEAR INTERVAL INSERVICE INSPECTION
REQUESTS FOR RELIEF REGARDING
INTEGRALLY-WELDED ATTACHMENTS
FOR
ENTERGY OPERATIONS INC.
RIVER BEND STATION
DOCKET NO. 50-458

1.0 INTRODUCTION

In a letter dated September 25, 1995, the licensee, Entergy Operations Inc., submitted requests for relief regarding integrally-welded attachments. The Nuclear Regulatory Commission requested clarification of the licensee's submittal by conference call held October 31, 1995. The licensee provided the required information in a letter dated December 14, 1995. These requests for relief are applicable to the first 10-year inservice inspection (ISI) interval, which began June 1986 at River Bend Station, Unit 1 (RBS). The Idaho National Engineering Laboratory (INEL) staff has evaluated the subject requests for relief in the following section.

2.0 EVALUATION

The Code of record for the River Bend Station, Unit 1, first 10-year ISI interval is the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 1980 Edition through Winter 1981 Addenda. The information provided by the licensee in support of the requests for relief has been evaluated and the bases for disposition are documented below.

- A. Request for Authorization to Use ASME Code Case N-509, Alternate Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments, Section XI, Division 1

Code Requirement:

Tables IWB/C/D-2500-1, Examination Categories B-H, B-K-1, C-C, D-A, D-B, D-C require volumetric or surface examination of 100% of the non-exempt integrally-welded attachments.

Code cases are periodically published by ASME to either clarify the intent of the Code or to provide alternatives to Code requirements. These nonmandatory Code cases may be used for ISI after general acceptance by the NRC staff and incorporation into Regulatory Guide 1.147. Pursuant to 10 CFR 50.55a, Code cases not incorporated into Regulatory Guide 1.147 may be used provided specific NRC authorization is obtained.

Licensee's Code Relief Request: The licensee requested authorization to use Code Case N-509, *Alternate Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments*, Section XI, Division 1.

Licensee's Basis for Requesting Relief (as stated):

"RBS requests approval for the use of ASME Code Case N-509 as an alternative to the requirements of ASME Section XI. This Code Case was approved by the ASME Board of Nuclear Codes and Standards on November 25, 1992; however, it has not been approved for use in NRC Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability - ASME Section XI Division 1."

While this Code Case does significantly reduce the number of integrally welded attachments examined, EOI is confident that this reduction will not adversely affect plant safety or the physical integrity of these components at RBS. Of the 158 integrally welded attachments that have been examined since initial plant startup, no degradation has been reported."

In response to questions presented to the utility for clarification of the request for relief, the licensee sent the following information by letter dated December 14, 1995.

"RBS requests approval for the use of this Code Case based on the technical justification used by ASME in conjunction with the development of Code Case N-509. In establishing this basis, ASME conducted a survey of the nuclear industry to determine the extent of integral welded attachment failures. The data which was collected from the survey (43 plants responded) concluded the following:

- Over the past 20 years, a total of five integral attachment failures were reported,
- The failures which were reported were identified as a result of connected support member deformation rather than during the scheduled examination of the integral attachment,
- Of the five failures, only one resulted in leakage from the pressure boundary. The root cause was determined to be design failure.

River Bend examination results of integral attachments are consistent with, and support, the technical basis established by ASME. Of the 158 integrally welded attachments that have been examined since initial plant startup, no degradation has been reported. Based on the industry experience compiled for the justification of this Code Case, EOI is confident that application of Code Case N-509 at RBS will not adversely affect plant safety or the physical integrity of these components."

Licensee's Proposed Alternative:

Code Case N-509 will be used in its entirety. RBS also plans to ensure examination of a 10% sample of all non-exempt Code Class 1, 2, and 3 integrally-welded attachments.

Evaluation: The licensee proposes to apply the requirements of Code Case N-509 for the selection and examination of integrally-welded attachments on Code Class 1, 2, and 3 piping and components. This is in lieu of the existing Code requirement to examine 100% of the non-exempt Class 1, 2, and 3 integrally-welded attachments.

The licensee included an Attachment^a to the letter dated December 14, 1995, that lists the integrally-welded attachments and the period in which they were examined or are scheduled to be examined. The examinations were equally divided between the three periods of the interval and RBS will exceed the percentage requirements of Code Case N-509 (60% of Class 1, 70% of Class 2, and 89% of Class 3 integrally-welded attachments will be examined by the end of the interval).

The NRC has previously authorized use of Code Case N-509 provided the licensee schedules a minimum of 10% of all integral attachments in non-exempt Code Class 1, 2, and 3 systems. Since the licensee has included this provision in its proposed alternative and has significantly exceeded the percentage requirements of Code Case N-509, the INEL staff believes that the proposed alternative will provide an acceptable level of quality and safety. Therefore, it is recommended that the licensee's proposed alternative be authorized, pursuant to 10 CFR 50.55a(a)(3)(i).

B. Request for Relief IWB/C-2412-1, Completion Percentage Requirements for Inspection Program B

Note: The licensee provided the integrally-welded attachment examination schedule in an Attachment^a to letter the dated December 14, 1995. The examinations were equally divided between the three periods of the interval. Authorization to use Code Case N-509 will reduce the population requiring examination. This reduction, along with the scheduling provided, showed that the percentage requirements of IWB/C-2412-1 have been met and, therefore, relief is no longer required.

a. Not included as part of this Technical Letter Report.

3.0 CONCLUSION

The INEL staff has reviewed the licensee's submittal and concludes that for Item A the proposed alternative will provide an acceptable level of quality and safety and, therefore, it is recommended that the licensee's proposed alternative be authorized, pursuant to 10 CFR 50.55a(3)(i).

For Item B, the INEL staff concludes that relief from the completion percentage requirements is not necessary due to current scheduling in conjunction with authorization to use Code Case N-509.

John R. McGaha, Jr.

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requirements of Section XI, Paragraphs IWB/C-2412-1 is not required due to current scheduling in conjunction with authorization to use Code Case N-509.

Sincerely,

ORIGINAL SIGNED BY:

William D. Beckner, Director
Project Directorate IV-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosures: 1. Safety Evaluation
2. Technical Letter Report

cc w/encls: See next page

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