



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
REGARDING RELIEF FROM THE ASME SECTION XI FOR DEFERRAL OF A
POST-REPAIR HYDROSTATIC TEST FOR
EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 1
DOCKET NO. 50-321

1.0 INTRODUCTION

In the course of performing routine activities during the current refueling/maintenance outage at Hatch Unit 1, Georgia Power Company (GPC or the licensee) identified a through-wall leak in a reactor pressure vessel (RPV) instrument line N11B nozzle safe-end. The leak was located in the base metal adjacent to the fillet weld attaching a coupling to the safe-end. The observed leakage rate was approximately one drop per minute under static water pressure with the refueling cavity flooded. Four similar instrument nozzles were inspected with acceptable results. This line is a Class 1 component inspected in accordance with the American Society of Mechanical Engineers (ASME) Section XI Code, 1980 Edition with addenda through winter 1981.

GPC has removed the flaw, and replacement pipe and fittings have been installed. Because of the location of the repair, isolation from the RPV for the purpose of performing a post-repair hydrostatic test is not possible. In order to perform the hydrostatic test specified by the ASME Section XI Code, it would be necessary to include the reactor pressure vessel and all Class 1 piping and components that cannot be isolated from the RPV.

By letter dated April 9, 1993, GPC requested relief from the requirements of Article IWA-4400 of ASME Section XI to defer the post-repair hydrostatic test until the end of the Hatch Unit 1 inservice inspection (ISI) interval. Under the current schedule, the subject test would be performed in the spring 1996 refueling/maintenance outage.

Where a licensee determines that compliance with certain requirements of the ASME Code is impractical and submits information to support its determination to the NRC, the Commission may grant relief under 10 CFR 50.55a(g)(6)(i) and impose such alternative requirements as it determines is authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest, giving due consideration to the burden upon the licensee that could result if the requirements were imposed. In addition, the proposed alternative to the requirements of the ASME Code may be authorized pursuant to 10 CFR 50.55a(a)(3)(i) if it provides an acceptable level of quality and safety.

2.0 EVALUATION

Section XI of the ASME Boiler and Pressure Vessel Code, which governs repair and replacement activities in service, requires corrective measures for components with unacceptable flaws. GPC has removed the flaw, and replacement pipe and fittings have been installed.

Consistent with the philosophy of ASME Code Case N-416, GPC requests relief from the requirement to perform a post-repair hydrostatic test prior to returning the instrument line to service and proposes to defer the test to the end of the current Unit 1 ISI interval. GPC also proposes to perform the following tests and examinations to ensure the integrity of the weld repair:

1. Liquid penetrant non-destructive examinations of the replacement welds. These examinations are consistent with the requirements of the 1989 Edition of the ASME Code, Section III. The acceptance criteria currently contained in the applicable plant procedure is identical to the criteria in the 1989 Edition of ASME Section III, NR-5352. This inspection has been satisfactorily completed on the N11B nozzle.
2. A VT-2 visual examination of the replacement and associated welds. This examination is performed in conjunction with the Class 1 system leakage test required by the ASME Section XI Code, 1980 Edition with addenda through winter 1981, Table IWB-2500-1, Examination Category B-P, Item B15.10.

These tests and examinations are consistent with those contained in proposed Code Case N-416-1. This Code Case is currently being reviewed by the ASME Code committees. The proposed alternative testing discussed above would ensure the structural integrity of the Code repair and would provide an acceptable level of quality and safety.

3.0 CONCLUSION

Based on its review of the licensee's submittal, the staff concludes that the proposed alternative to performing the Code required hydrostatic test prior to plant startup is acceptable. The proposed alternative is to perform liquid penetrant non-destructive examinations and a VT-2 visual examination on the replacement welds which would ensure the structural integrity of the Code repair and would provide an acceptable level of quality and safety. Furthermore, the licensee plans to perform a post-repair hydrostatic test at the end of Hatch Unit 1 inservice inspection interval (i.e., spring 1996 refueling/maintenance outage)

Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the alternative testing is authorized until the spring 1996 refueling/maintenance outage when the Code required testing will be performed.

Principal Contributors: K. Jabbour, NRR
T. McLellan, NRR

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