



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

November 21, 1988

Docket No. 50-369

Mr. H. B. Tucker, Vice President
Nuclear Production Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

SUBJECT: RELIEF FROM ASME CODE REQUIREMENTS DUE TO INTERFERENCE OF SAFETY
INJECTION BRANCH LINE DURING RTD MODIFICATION - MCGUIRE NUCLEAR
STATION, UNIT 1, RELIEF REQUEST 88-09 (TAC 71140)

By letter dated November 11, 1988, you requested and supported relief from the hydrostatic pressure testing requirement of Section XI of the ASME Boiler and Pressure Vessel Code, 1980 Edition through Winter 1980 Addenda, Article IWA-4000, Paragraph IWA-4210, Article IWA-5000, and Article IWC-5000. The request (No. 88-09) is associated with construction interference encountered during implementation of changes in the primary temperature detection (RTD) system for McGuire, Unit 1 which was authorized by License Amendment 84.

During implementation of the RTD modification, about 6 feet of the 1.5 inch safety injection (SI) branch line which supplies ECCS water from the centrifugal charging pumps to the cold leg of RCS Loop 1B was found to interfere with the modification and was removed. The affected portion is upstream of check valves 1NI-17 and 1NI-347 which prevent back flow from the RCS. Upon completion of the RTD modification, the SI line will be reinstalled using socket-welded full couplings resulting in four welds. The SI piping is 1.5 inch schedule 160, SA376, type 304 and the couplings are 1.5 inch 6000 pounds, SA 182, type 304. In lieu of hydrostatic pressure testing, you propose to perform a liquid penetrant test on all root passes and final passes of the four welds, followed by a visual examination. You also will perform a system inservice leak test at system operating pressure and temperature.

You have concluded that hydrostatic pressure testing of these four welds is impractical. There is no isolation valve between the welds and the RCS cold leg, and thus the SI line containing the welds can not be isolated for such testing. You considered various alternate methods to achieve isolation, but

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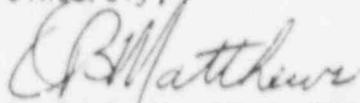
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found these to be impractical because of technical difficulties. Specifically, modifying the existing Kerotest check valve to contain pressure in the opposite direction would result in seat damage, with no assurance of success; installing a manual isolation valve in the NI line would introduce new welds subject to the same isolation problem; and use of a freeze plug in the NI line would be ineffective at the test pressure involved and could damage other welds in the area. Concurrent pressurization of the RCS and NI line would expose these systems to an undesirable stress cycle and thus reduce the limited number of available cycles provided in the design. These alternatives were also found to result in substantial hardships in the form of additional work force expenditure, additional personnel radiation exposure and delays to plant start-up. Therefore, you have proposed the alternate testing and examinations discussed above.

The staff has evaluated your relief request. We conclude that the ASME Code requirement is impractical to perform at the McGuire Nuclear Station, and that the alternative tests provide an acceptable level of structural integrity. Compliance with the specific ASME Code requirements would result in hardship without a compensating increase in the level of quality and safety.

Accordingly, relief from the hydrostatic test requirements is granted for McGuire Unit 1 as requested, pursuant to 10 CFR 50.55a(g)(6)(i). This relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest given due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Sincerely,



David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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David B. Matthews, Director
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 Division of Reactor Projects - I/II
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