



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR RELIEF FROM ASME CODE REPAIR REQUIREMENTS

NORTHERN STATES POWER COMPANY

PRAIRIE ISLAND NUCLEAR STATION, UNIT NOS. 1 AND 2

DUCKET NOS. 50-282 AND 50-306

1. BACKGROUND

Temporary Non-Code Repairs

Title 10 of the Code of Federal Regulations, Part 50 Subsection 50.55a(g) requires nuclear power facility piping and components to meet the applicable requirements of Section XI of the ASME Boiler and Pressure Vessel Code (hereafter called the Code). Section XI of the Code specifies acceptable repair methods for flaws that exceed Code acceptance limits in piping that is in service. A Code repair is required to restore the structural integrity of flawed Code piping, independent of the operational mode of the plant when the flaw is detected. Those repairs not in compliance with Section XI of the Code are Non-code repairs. However, the required Code repair may be impractical for a flaw detected during plant operation unless the facility is shut down. Pursuant to 10 CFR 50.55a(g)(6)(i), the Commission will evaluate determinations of impracticality, and may grant relief and may impose alternative requirements. Generic Letter 90-05, entitled "Guidance for Performing Temporary Non-code Repair of ASME Code Class 1, 2, and 3 Piping," dated June 15, 1990, provides guidance for the staff in evaluating relief requests. The Commission may grant relief based on a staff evaluation considering the guidance in Generic Letter 90-05.

Licensee's Relief Request

By letter dated May 7, 1992, Northern States Power Company (licensee) requested relief from Code repair requirements of certain Code Class 3 piping at Prairie Island Nuclear Generating Plant, Units 1 and 2. Initially, three indications were detected in the Class 3 moderate energy cooling water system (CWS) train A that were below the Code's minimum wall thickness. The indications were characterized as microbiologically influenced corrosion (MIC). Examinations of similar areas and non-similar areas in the CWS trains A and B revealed additional indications of MIC. However, no through wall leakage was identified. The licensee has determined that conformance with Code repair requirements is impractical.

Pursuant to 10 CFR 50.55a(g)(5)(iii), the licensee submitted a relief request to the Commission. The affected pipes are ferritic steel (ASTM A-106, Grade B) fabricated to outside diameters of 24 inches and 30 inches. The licensee will perform weekly walkdown inspections of the affected piping and will verify the pipes' integrity once every three months with non-destructive examination (NDE).

## II. EVALUATION OF RELIEF REQUEST

### Code Requirement

The piping was designed and constructed to ANSI B31.1, 1967 Edition with the minimum pipe thickness being calculated per subparagraph 104.1. For inspection purposes, the piping was later classified ASME Code, Section XI, Class 3. Section XI of the Code requires that flaws in excess of code acceptance limits be repaired to restore structural integrity of piping.

### Code Relief Request

Temporary relief is requested from the Code requirement to repair flaws detected in Code Class 3 piping during plant operation.

### Basis for Relief

In order to perform the necessary Code repairs, both units need to be removed from operation. Train A supply header serves Unit 1 and Unit 2 safeguards components. Train B supply header also serves Unit 1 and Unit 2 safeguards components. A Technical Specification (TS) Limiting Condition for Operation (LCO) allowed out-of-service time of 72 hours is to be in effect if either header is removed from service. A work plan has been outlined to determine if the scope of the Code repair could reasonably be completed within the allowed out-of-service time. Prairie Island's staff concluded that there was not adequate time to perform the Code repair within the allowed out-of-service time period.

Since the TS's out-of-service time would be exceeded, Code repair requirements are impractical unless both Units 1 and 2 are shut down.

### Proposed Alternative

The licensee proposed to utilize the guidance in Generic Letter 90-05 to perform the Non-code repair.

### Staff Evaluation and Conclusions

The staff has determined that Code repair requirements in this case are impractical as defined in Generic Letter 90-05 since the flaw detected during operation is in Class 3 piping that cannot be isolated to complete the code repair within the time permitted by the LCO. Furthermore, the licensee has committed to the guidance provided in Generic Letter 90-05 which will reasonably assure structural integrity and protect public health and safety. Giving due consideration to the burden upon the licensee and facility that could result if the Code requirements were imposed on the facility, the staff concludes that granting relief where Code requirements are impractical and imposing alternative requirements are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. Pursuant to 10 CFR 50.55a(g)(6)(i) and consistent with the guidance in Generic Letter 90-05, relief is granted until the next two-unit outage which is scheduled for Fall 1992. By the end of the outage, the subject piping shall be repaired according to Code.

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