



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR RELIEF FROM REGULATORY REQUIREMENTS

UNION ELECTRIC COMPANY

CALLAWAY NUCLEAR POWER PLANT UNIT 1

DOCKET NO. 50-483

1.0 INTRODUCTION

By letter dated July 19, 1991, the Union Electric Company (the licensee) submitted a Relief Request Q, Reactor Pressure Vessel Supports, to the Callaway Plant Inservice Inspection (ISI) Program Plan. The ISI program includes ASME Code Class 1, 2 and 3 components and shall be performed in accordance with Section XI of the ASME Code and applicable addenda as required by 10 CFR Part 50, Section 50.55a(g), except where specific written relief has been granted by the NRC pursuant to 10 CFR Part 50, Section 50.55a(g)(6)(i).

2.0 EVALUATION

Component: Reactor Pressure Vessel Supports (2RBB01-01, 02, 03, 04)

Code Requirement: Section XI, Table IWF-2500-01, Item No. F1. 40 requires a visual examination (VT-3) in accordance with the requirements of IWF-2510.

Basis for Relief: Complete examination of the above supports is hindered by high radiation, the insulation surrounding the reactor pressure vessel and the surrounding concrete structure. In order to visually examine these supports, the insulation and walk plates would have to be removed because no portion of the air cooled box and attachment bolting to the building structure is visible. Even after removing the insulation, only a limited portion of the welds on the air cooled box could be inspected. The bolting to the building structure would still be inaccessible. The radiation level in this area is greater than 1.5 R/hr. It is estimated that the removal and reinstallation of the insulation and walk plates, combined with the actual inspection of the accessible portion of the air cooled box, would result

in approximately 36 man-rem exposure. Therefore, permanent relief is requested to only perform inspections on the visible portions of the supports without removal of the walk plates and insulation.

The licensee has stated that a visual inspection of the shoe assembly and wear plate will be performed to the maximum extent practical during the next refueling outage without removing the insulation and walk plates. Prior to installation, the support shoes and air cooled box structures received magnetic particle testing, or penetrant testing, ultrasonic testing and visual testing examinations.

Stringent ASME Section III, Subsection NF quality assurance programs were utilized in the design, fabrication, and installation of these Class 1 components. Section III examinations confirmed support integrity during construction. The air cooled box, supporting the Reactor Pressure Vessel, is a rigid structure. The internal structural members with inaccessible welds are in compression. The absence of tensile or bending moment loads diminishes the importance of weld inspections. The main function of these welds is to hold the members in place rather than transfer direct loads to the building structure.

The staff has reviewed the licensee's relief request and is satisfied that an acceptable level of safety is provided without requiring complete examination of these supports. In addition, high-radiation level considerations prevent the practicality of completing the examinations as required. Compliance with the Code would require the redesign or replacement of the affected components.

3.0 CONCLUSION

The staff concludes from its review of the information submitted by the licensee that certain ASME Code and regulatory requirements as described in Relief Request Q are impractical to perform at the Callaway Nuclear Power Plant, Unit 1. Pursuant to 10 CFR Part 50.55a(g)(6)(i), relief requested is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest. This relief has been granted giving due consideration to the burden that could result if the requirements were imposed on the facility.

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Date: February 12, 1992