



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
OF THE SECOND TEN-YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN
REQUEST FOR RELIEF NO. 92-06 FOR
DUKE POWER COMPANY
OCONEE NUCLEAR STATION, UNIT NO. 2
DOCKET NO. 50-270

1.0 INTRODUCTION

Technical Specification 4.2.1 for Oconee Nuclear Station, Unit 2 states that inservice inspection and testing of the American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). Under 10 CFR 50.55a(a)(3), alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during each ten-year interval comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) on the date 12 months prior to the start of the 120-month inspection interval, subject to the limitations and modifications listed therein. The components (including supports) may meet the requirements set forth in subsequent editions and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein.

Pursuant to 10 CFR 50.55a(g)(5), if the licensee determines that conformance with an examination requirement of Section XI of the ASME Code is not practical for its facility, information shall be submitted to the Commission in support of that determination and a request made for relief from the ASME Code requirement. After evaluation of the determination, pursuant to

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10 CFR 50.55a(g)(6)(i), the Commission may grant relief and may impose alternative requirements that are determined to be authorized by law, will not endanger life, 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.

By a letter dated March 30, 1992, Duke Power Company (licensee) submitted to the NRC Request for Relief No. 92-06 from the ASME Section XI Code requirement to perform a VT-2 inspection on repaired Chemical Addition Valve No. 2CA-19 after replacement of a body to bonnet bolt. The licensee provided information to support its determination that the required inspection is impractical to perform during the Second Ten-Year Inservice Inspection Interval for Oconee Nuclear Station, Unit 2. The licensee also provided additional information by phone call on December 2, 1992.

2.0 EVALUATION

Code Requirement: Subarticle IWA-5214(e) requires that if only disassembly and reassembly of mechanical joints of a component (e.g., bolted flange connection) are involved in a repair, a system pressure test of IWA-5211(a), (b), or (c) shall be acceptable in lieu of a system hydrostatic test. Subarticle IWA-5211(c) requires that a VT-2 visual examination be performed while the system is in service under operating pressure.

Licensee's Code Request for Relief: The licensee is requesting relief from the Code requirement to perform a VT-2 inspection on the body-to-bonnet joint of Valve No. 2CA-19 after the replacement of a body to bonnet bolt.

Licensee's Basis for Requesting Relief: The licensee states that Valve No. 2CA-19 is located in the Letdown Storage Tank room and access to this room is restricted during plant operation due to high radiation levels around the tank. The radiation levels in the inspection area are between 5R/hr to 20R/hr depending on reactor mode. It takes two people 30 minutes to perform the Code examinations and would result in each person at the minimum receiving a dosage of 2.5R. The valve is manufactured by Velan and is a 1-1/2 inch gate valve. The design pressure and temperature are 150 lbs and 200 degrees Fahrenheit. This valve is normally shut and serves as an alternative flow path from the Boric Acid Mix pump to the Letdown Filters, and since there is no flow meter in this line, it is only used for an emergency.

Licensee's Proposed Alternative Examinations: The licensee proposed to perform a visual inspection of the valve at the next outage of sufficient duration to allow the radiation to decay to a safe level. At this time, the licensee will visually inspect the valve to determine if leakage has taken place during the operating cycle.

Staff Evaluation: The Code requires that if only disassembly and reassembly of mechanical joints of a component are involved (e.g., a bolted flange connection), a system pressure test of IWA-5211(a), (b), or (c) shall be acceptable in lieu of a system hydrostatic test. Subarticle IWA-5211(c) requires that a VT-2 visual examination be performed while the system is in service under operating pressure. To perform the Code VT-2 examination would

expose licensee personnel to a minimum radiation dose rate of 5R/hr, because Valve No. 2CA-19 is located in the Letdown Storage Tank room and access to this room is restricted during plant operation due to radiation levels of 5R/hr to 20R/hr around the tank. The staff concluded that to perform the Code examinations would result in hardship or unusual difficulties for the licensee without a compensating increase in level of quality and safety. The licensee has proposed as an alternative examination a visual inspection of the valve at the next outage of sufficient duration to allow the radiation to decay to a safe level. The alternative provides reasonable assurance of the structural integrity of Valve No. 2CA-19. Therefore, the staff finds the alternative testing as proposed by the licensee to be acceptable.

3.0 CONCLUSION

Paragraph 10 CFR 50.55a(g)(4) requires that components (including supports) that are classified as ASME Code Class 1, 2, and 3 meet the requirements, except design and access provisions and preservice requirements, set forth in applicable editions of ASME Section XI to the extent practical within limitations of design, geometry, and materials of construction of components.

The staff concludes that the Code requirements to perform a VT-2 examination on Valve No. 2CA-19 after its repair is a hardship and unusually difficult without a compensatory increase in the level of quality and safety since the licensee's proposed alternative examination will provide a reasonable assurance of the structural integrity of the valve. Therefore, the proposed alternative may be authorized pursuant to 10 CFR 50.55a(a)(3)(ii).

Date: February 9, 1993