UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

OF THE SECOND TEN YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN

REQUEST FOR RELIEF NO. 94-03

FOR

DUKE POWER COMPANY

OCONEE NUCLEAR STATION, UNIT 1

DOCKET NO. 50-269

1.0 INTRODUCTION

The Technical Specifications for Oconee Nuclear Station state that the inservice inspection 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 Title 10 of the Code of Federal Regulations (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). Section 50.55a(a)(3) states that 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 the first 10-year interval and subsequent intervals 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 interval, subject to the limitations and modifications listed therein. The applicable edition of Section XI of the ASME Code for the Oconee Nuclear Station, second 10-year inservice inspection (ISI) interval, is the 1980 Edition through Winter 1980 Addenda. 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 and subject to Commission approval.

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 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 letter dated March 10, 1994, the licensee, Duke Power Company, submitted Request for Relief No. 94-03, requesting relief from the requirements of ASME Boiler and Pressure Vessel Code Section XI.

2.0 EVALUATION

The staff has evaluated the information provided by the licensee in support of Request for Relief No. 94-03 as follows:

Request for Relief No. 94-03:

The licensee requested relief from performing the Code-required hydrostatic pressure test for the emergency discharge header for the Condenser Circulating Water (CCW) system once each inspection interval.

Code Requirement:

Paragraph IWD-2610 requires a hydrostatic pressure test the pressure-retaining boundary once each 10-year inspection interval.

Licensee's Basis for Requesting Relief (as stated in the March 10, 1994, letter):

> Isolating the Unit-1 CCW Emergency discharge header would make the Emergency CCW inoperable for all three units. This would incur a seven day LCO (the emergency discharge header must be operable anytime the reactor coolant system temperature is above 250 °F). The impracticality of hydrostatically testing the CCW emergency header is due to difficulty of supplying the amount of makeup water needed to overcome the bypass seat leakage of several large butterfly valves. These valves were not intended to function as hydrostatic pressure test boundary valves. If the hydrostatic pressure test could be performed, the pressurized boundary valves would be:
>
> **Unit-1:** 1CCW-1, 2, 3, 4, 5, 6 and 240; IV-176, 191, 193 and 195.
> **Unit-2:** 2CCW-7
> **Unit-3:** 3CCW-93
> **Unit-1,2 & 3:** CCW-8 and 9 (generic to all 3 units)

Of the above listed valves, there are six 12", two 30", and one 48" butterfly valves. During testing (tests used to verify surveillance tests) on the CCW system, the total bypass seat leakage attributed to valves 1CCW-1 through 6 and CCW-9 was an estimated 930 gpm (which is much less than one percent of the CCW that normally discharges back to the lake). Since the safety related function of these valves is to open and a certain amount of bypass seat leakage is acceptable, it would be illogical to expect these valves to function as hydrostatic pressure test boundaries. This would mean in order to perform the hydrostatic pressure test, Oconee would have to 1) weld a large tap to the CCW piping for a high volume hydro pump connection and 2) replace most of these valves with valves designed for minimal bypass seat leakage.

The alternate examinations, the performance test and Oconee's excellent welding record provides an acceptable level of assurance for the quality of these welds and the health and safety of the general public will not be diminished.

Licensee's Proposed Alternative Examination:

This piping will be tested per Performance Test Procedure PT/1/A/0261/07 to demonstrate that the Emergency Circulating Water System gravity flow can be maintained and the intake canal recirculation flow path can be established in the event of a dam failure. The performance test will be performed each refueling outage. The subject portion of the CCW system will receive a VT-2 visual examination at operating pressure during the performance of this test.

Staff Evaluation:

The Code requires a system hydrostatic test of this system once each 10-year inspection interval. However, the boundary valves needed to perform the test on the subject portion of the CCW system have common connections with the other Oconee units and are not isolable. Thus, performance of the system hydrostatic test would disable the emergency component cooling water system for all three units. To perform the required pressure test, extensive piping modifications would be necessary to isolate this portion of the system. As an alternative, the licensee proposed a VT-2 visual examination when the system is at normal operating pressure, and a test of the system's flow path. This alternative should detect any problems associated with the system and will provide reasonable assurance of the operational readiness of the system. Based on the impracticability of complying with the Code-required hydrostatic pressure test for the Oconee Unit 1 CCW emergency discharge header, and the burden on the licensee if the requirements were imposed, relief is granted pursuant to 10 CFR 50.55a(g)(6)(i).

3.0 CONCLUSION

The NRC staff has reviewed Request for Relief No. 94-03 and concludes that the requirements of the Code are impractical for Oconee Nuclear Station, Unit 1, and relief is granted, 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, giving due consideration to the burden that could result if the requirements were imposed on your facility. The alternative examination and testing proposed by the licensee should provide reasonable assurance of the operational readiness of the subject system.

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Date: January 30, 1995