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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

THIRD TEN-YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN, REVISION 1

AND ASSOCIATED REQUESTS FOR RELIEF

FOR

DUKE POWER COMPANY

OCONEE NUCLEAR STATION, UNITS 1, 2 AND 3

DOCKET NOS. 50-269, 50-270, AND 50-287

1.0 INTRODUCTION

The Technical Specifications for Oconee Nuclear Station, Units 1, 2, and 3, 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) 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, Units 1, 2, and 3, third 10-year inservice inspection

(ISI) interval is the 1989 Edition. The third 10-year interval for Unit 1 began July 15, 1994, and ends July 15, 2004. Unit 2 third 10-year interval began December 16, 1994, and ends September 9, 2004, and for Unit 3 the third 10-year interval began December 16, 1994, and ends December 16, 2004.

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.

In a letter dated December 20, 1993, Duke Power Company submitted to the NRC its Third Ten-Year Interval Inservice Inspection Program Plan, Revision 0, and associated requests for relief for the Oconee Nuclear Station, Units 1, 2 and 3. During the staff's review of Revision 0 of the third 10-year ISI program plan, the licensee submitted Revision 1 of its program plan and associated requests for relief. Although, the staff reviewed Revision 0, this review is based on the latest revision of the licensee's program plan. Additional information for Revisions 0 and 1 was provided by the licensee in its letters dated January 24 and May 11, 1995, respectively.

2.0 EVALUATION AND CONCLUSIONS

The staff, with technical assistance from its contractor, the Idaho National Engineering Laboratory (INEL), has evaluated the information provided by the licensee in support of its Third Ten-Year Interval Inservice Inspection Program Plan, Revision 0 through Revision 1, and associated requests for relief for Oconee Nuclear Station, Units 1, 2, and 3. Table 1 provides a summary of the licensee's requests for reliefs and the actions and conclusions of the staff.

Based on the information submitted, the staff adopts the contractor's conclusions and recommendations presented in the attached Technical Evaluation Report. No deviations from regulatory requirements or commitments were identified in the *Oconee Nuclear Station, Units 1, 2, and 3 Third Ten-Year Interval Inservice Inspection Program Plan, Revision 1*, with the exception of Requests for Relief Nos. ONS-007 (Unit 1) and ONS-008 (Units 2 and 3).

Requests for Relief Nos. ONS-007 and ONS-008 are denied, because the licensee did not provide sufficient technical information justification for relief from the Code requirement. The staff concludes that in lieu of Requests for Relief Nos. ONS-007 and ONS-008, the licensee should reconsider the use of Code Case N-481 for use at Oconee Nuclear Station, Units 1, 2, and 3. However, if a technical problem exists in implementing Code Case N-481, then a

request for relief from the Code requirements may be submitted citing the technical problems with the use of the Code Case and why the alternative would provide an acceptable level of quality and safety.

The proposed alternatives contained in Requests for Relief Nos. ONS-001, ONS-002, ONS-003, ONS-005, and ONS-006 will provide an acceptable level of quality and safety and are authorized pursuant to 10 CFR 50.55a(a)(3)(i) as requested with the exception of Requests for Relief Nos. ONS-001, ONS-002, and ONS-003, which are authorized with conditions. Requests for Relief Nos. ONS-001 and ONS-002 are authorized provided that the licensee's alternative meets the following two conditions specified in BAW-2228P Revision 1, "Fracture Mechanics Assessment of Postulated Outer Surface Semi-Elliptical Circumferential RV Nozzle-to-Pipe Weld Flaws":

1. The input stresses under normal/upset and emergency/faulted conditions shown in Table 1a. and 1b. for the respective Oconee units are the result of using the bounding transient in the analysis; and

2. The material in the inlet, outlet, and core flood nozzles is either A508 Class 2 carbon steel or SA 336 (316) stainless steel.

(Subsequent to the staff's review of the licensee's third 10-year inservice inspection program plan and associated requests for relief for Oconee, Units 1, 2, and 3, Revision 1 of BAW-2228P was submitted by the B&W Owners Group in its letter dated August 21, 1995, and has not been approved by the NRC at this time. However, the staff determined that, based on the above two conditions, it is acceptable for use by the licensee for Oconee, Units 1, 2, and 3.)

The alternative contained in Request for Relief No. ONS-003 is authorized provided that all related requirements of the 1990 addenda are met.

The staff concluded that compliance with the Code requirements regarding Requests for Relief Nos. ONS-004 and ONS-011 would result in hardship without a compensating increase in safety and that the proposed alternatives contained in the relief requests will provide reasonable assurance of operational readiness. Therefore, the alternatives contained in Requests for Relief Nos. ONS-004 and ONS-011 are authorized pursuant to 10 CFR 50.55a(a)(3)(ii).

In the case of Requests for Relief Nos. ONS-009 and ONS-010, the licensee has demonstrated that specific Code requirements are impractical and that granting relief will not endanger life, property, or the common defense and security and is otherwise in the public interest, giving due consideration to the burden upon the licensee that could result if the requirements were imposed on

the facility. In addition, the staff has concluded that the proposed testing would provide reasonable assurance of operational readiness of the subject systems. Therefore, relief is granted for Requests for Relief Nos. ONS-009 and ONS-010 pursuant to 10 CFR 50.55a(g)(6)(i) as requested.

Attachments:
1. Table 1
2. Technical Evaluation Report

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Date: November 15, 1995

TABLE 1
SUMMARY OF RELIEF REQUESTS

Relief Request Number	System or Component	Exam Category	Item No.	Volume or Area to be Examined	Required Method	Licensee Proposed Alternative	Relief Request Status
ONS-001	Reactor Vessel and Class 1 piping	B-F B-J	B5.10 B9.11	Nozzle-to-Safe End Welds Safe End-to-Pipe Welds	Volumetric and surface examinations	Perform volumetric exam from the inside surface of 100% of the weld volume	Authorized conditionally 50.55a(a)(3)(i)
ONS-002	Class 1 piping	B-J	B9.11	Reactor Vessel Nozzle-to-Pipe Welds	Volumetric and surface examinations	Perform volumetric exam from the inside surface of 100% of the weld volume	Authorized conditionally 50.55a(a)(3)(i)
ONS-003	Class 1, 2, and 3 piping	IWA-5250		Leaking Bolted Connections	Remove all bolting and perform a VT-3 visual examination	Remove only the bolt closest to the source and perform a VT-3 visual examination	Authorized conditionally 50.55a(a)(3)(i)
ONS-004	Control Rod Drives	IWB-2430		Bolting	Additional VT-1 visual examinations when unacceptable indications are found	Visual examination of only bolting exposed to boric acid if indications caused by boric acid	Authorized 50.55a(a)(3)(ii)
ONS-005	Control Rod Drives	B-G-2	B7.80	Bolting	VT-1 visual examination when disassembled	Replace bolting	Authorized 50.55a(a)(3)(i)
ONS-006	Reactor Vessel	B-D B-J	B3.90 B3.100 B9.11	Nozzle-to-Vessel Welds Nozzle Inside Radius Sections Nozzle-to-Pipe Welds	Scheduling	Deferral of examinations until third period	Authorized 50.55a(a)(3)(i)

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Relief Request Number	System or Component	Exam Category	Item No.	Volume or Area to be Examined	Required Method	Licensee Proposed Alternative	Relief Request Status
ONS-007	Reactor Coolant Pumps Unit 1	B-L-1 B-L-2	B12.10 B12.20	Casing Welds Internal Surfaces	Volumetric examination of Weld VT-3 visual examination of surfaces	Perform examinations only if a pump is disassembled for maintenance	Denied
ONS-008	Reactor Coolant Pumps Units 2 and 3	B-L-1 B-L-2	B12.10 B12.20	Casing Welds Internal Surfaces	Volumetric examination of Weld VT-3 visual examination of surfaces	Perform examinations only if a pump is disassembled for maintenance	Denied
ONS-009	Letdown Cooler	B-D	B3.160	Nozzle Inner Radius Sections	Volumetric examination	None	Granted 50.55a(g)(6)(i)
ONS-010	Main Steam	C-F-2	C5.81	Circumferential Welds at Branch connections NPS $\leq$2 inches	Surface examination	Surface examination of surrounding guard pipe	Granted 50.55a(g)(6)(i)
ONS-011	Reactor Coolant Pumps	IWB-2420		Reactor Coolant Pumps 3A2 and 3B1 Stud Holes	Successive examinations	Visual examination of surrounding area for boric acid Evaluation with stud missing	Authorized 50.55a(a)(3)(ii)