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SUBJECT: Forwards second 10-yr ISI interval Request for Relief 94-06 from ASME Section XI, 1980 Edition, including Winter 1980 addenda, to allow util to perform alternate exams specified in Code Cases N-498 & N-416-1.W/three oversize drawings.

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DUKE POWER

July 18, 1994

U.S. Nuclear Regulatory Commission
Attention Document Control Desk
Washington, DC 20555

Subject: Duke Power Company
Oconee Nuclear Station, Unit 2
Docket No. 50-270
Second Ten Year Inservice Inspection Interval
Request for Relief No. 94-06

Pursuant to 10 CFR 50.55a, attached is a Request for Relief from ASME Section XI, 1980 Edition, including the Winter 1980 Addenda. This request is to allow Duke Power to perform the alternate examinations specified by code cases N-498 and N-416-1 in lieu of performing a post-repair hydrostatic test and 10-year ISI hydrostatic test on weld joints on Unit 2 piping which is unisolable from the steam generators. Performing the code required examinations would incur considerable hardship on Duke Power without a compensating increase in level of health and safety to the general public.

This request needs to be reviewed and approved by December 16, 1994 at which time Oconee Unit 2 will end its Second Ten Year Inservice Inspection Interval.

If there are any questions or further information is needed you may contact D. A. Nix at (803) 885-3634.

Very truly yours,


J. W. Hampton
Site Vice President

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PDR ADDOCK 05000270
PDR

AD471

U. S. Nuclear Regulatory Commission
Page 2

attachment

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OCONEE NUCLEAR STATION

Unit-2

Second Ten Year Interval

Request # 94-06

1. Component for which relief is requested:

(a) Name and Number: Main Steam System Welds For Inlets To Valve 2MS-76, Weld 2-01A-4(Part 1 of 3)-55; and 2MS-84, Weld 2-01A-4(Part 2 of 3)-43E.

Steam Drain System Welds For Inlets To Valves 2SD-418, Weld 2-01A-4(Part 3 of 3)-57; 2SD-419, Weld 2-01A-29-17; 2SD-420, Weld 2-01A-29-19; 2SD-421, Weld 2-01A-29-21

(b) Function: 2MS-84 - 6 inch Isolation Valve for Main Steam Header "B" to Emergency Feedwater Pump Turbine

2MS-76 - 12 inch Isolation Valve for Main Steam Header "A" to Moisture Separator Reheaters 2A1 and 2A2

2SD-418, 419, 420, and 421 - 1.5 inch Steam Drain Isolation Valves Between Main Steam Stop Valves and the Condenser

(c) ISI Class/Duke Class: ISI Class 2 / Duke Class F

(d) IWV-2000 Valve Category: N/A

(e) Reference documents (drawings, manuals, etc.)

Welding Isometric	2-01A(1)-04, Parts I, II and III
Welding Isometric	2-01A(1)-29
Flow Diagram	OFD 122A-2.1
Flow Diagram	OFD 122A-2.4
Flow Diagram	OFD 122B-2.1
Oconee Relief Request Dated December 3, 1986	
NRC SER Dated May 14, 1991	
Oconee Relief Request 89-06, Dated July 13, 1989	
NRC SER Dated October 10, 1989	
Oconee Relief Request 90-05, Dated October 23, 1990	
NRC SER Dated May 23, 1991	

2. Reference Code Requirement that has been determined to be excessively burdensome:

ASME Boiler and Pressure Vessel Code Section XI, 1980 Edition (with addenda through Winter 1980) Paragraph IWC-7200 and IWA-4400(a) requires replacements by welding be hydrostatically tested.

3. Basis for requesting relief:

As a part of the alternate examinations, specified in the relief requests 89-06, 90-05, and dated December 3, 1986 for 2MS-84, 76, and 2SD-418 thru 421, referenced above, Duke proposed to include the welds in the hydrostatic test performed once each Inspection Interval.

Code Case N-498 has been approved and issued by ASME and approved for use by the NRC. This allows the use of a System Pressure Test as an alternate to the Hydrostatic Test required to be performed once during each Inspection Interval. Duke is planning to use the allowance of this Code Case for the systems associated with the above relief requests.

In addition, Code Case N-416-1 has been approved and issued for use by ASME. This Code Case allows the combination of NDE and a system leakage test as an alternative to a hydrostatic test following repairs and replacements by welding.

Duke proposes the welds addressed by this relief request receive nondestructive examinations and be examined for leakage during the System Pressure test in lieu of performing the hydrostatic test required following replacements.

Performing the hydrostatic test on 2MS-76 and 84 would require filling and pressurizing the secondary side of the 2A and 2B steam generators as well as several hundred feet of feedwater and main steam pipe associated with each steam generator. Well over 200 man-hours would be used just to prepare for and recover from the hydrostatic test. This time is needed for such items as:

- 1) installing additional supports for the main steam lines prior to the hydrostatic pressure test and restoration afterwards,
- 2) adjusting approximately 20 spring hangers for the main steam lines and restoration afterwards,
- 3) gagging 16 relief valves for the higher pressure and restoration afterwards,

- 4) repacking approximately 100 valves after the hydrostatic test (required due to both the higher hydrostatic test pressure and the use of water on valves designed for steam),
- 5) isolating over 30 instruments and restoring them afterwards, and
- 6) inspecting at least 10 other valves (relief valves and stop valves) after completion of the hydrostatic test.

This work would extend the outage at least 5 days and cost approximately 3 million dollars in lost revenues.

To perform the hydrostatic test on 2SD-418, 419, 420, and 421 would require system modification. The piping downstream of these valves is a lower design pressure. To perform the test from the downstream direction would over pressurize this piping. There is no connection on the upstream side of the valves to be able to pressurize these welds. A test connection would be required to be added to each line in order to establish a hydrostatic connection point, creating needless welds.

The premise of this request is that a hydrostatic test for these welds would result in an excessive burden without a compensating increase in the level of quality or safety. The NDE and VT-2 examination during the system inservice test previously performed for 2MS-76, 84, and 2SD-418 thru 421, in conjunction with an additional VT-2 examination during the System Pressure test to be performed during the upcoming refueling outage, will provide the equivalent assurance of a hydrostatic test for the structural integrity, quality and leak tightness of the welds.

4. Alternate Examination:

The NDE and a system inservice test, with the associated VT-2 examination, was performed when the welds for 2MS-84, 76 and 2SD-418 thru 421 were made. A second VT-2 Examination will be performed during the System Pressure Test to be performed during the upcoming Unit 2 EOC 14 Refueling outage.

5. Acceptability of proposed alternate testing with respect to the level of quality and safety as well as public health and safety:

Duke Power's Repair and Replacement Program meets the requirements of ASME Section XI. As a part of this program, Duke Power's Welding Program meets the requirements of ASME Section IX. The Welding Procedures and Welders are also qualified in accordance with ASME Section IX. The welds were visually inspected throughout the welding operation at the intervals and to the acceptance criteria of ANSI B31.1, the Construction Code for these systems, and Duke Power's Piping Specification. These processes and programs are all under the control of Duke Power's Quality Assurance Program. Repairs and Replacements are also monitored by and subject to independent inspection and/or review by the Authorized Nuclear Inservice Inspector to assure compliance with ASME Section XI. These processes and programs provide assurance the welds were made under controlled conditions and in a quality manner.

Code Case N-416-1 has been approved and issued for use by ASME. This Code Case allows the combination of NDE and a System Leakage Test as an alternative to a Hydrostatic Test following repairs or replacements by welding. By approving this Code Case, ASME is confirming these alternate examinations are acceptable substitutes for the existing Code requirements. The proposed alternate examinations will satisfy Code Case N-416-1 thereby providing an equivalent level of assurance of a hydrostatic test as to the structural integrity, quality, and leak tightness of the welds and that they will perform their intended safety function.

Should the welds on 2MS-84, 2MS-76, 2SD-418, 2SD-419, 2SD-420, or 2SD-421 fail, it would result in a Main Steam Line break outside the Reactor Building. This accident has been evaluated in Chapter 15, Accident Analyses, of Oconee's FSAR and emergency procedures developed to safely recover from this event.

Based on the above, an acceptable level of assurance will be provided that the health and safety of the general public will not be endangered by this deviation from the ASME Section XI requirements.

6. Implementation Schedule:

The radiographic and VT-2 examination during the system inservice test, were performed when the welds for 2MS-84 and 76 were made. The surface, nondestructive examination and VT-2 examination on the welds for 2SD-418 thru 421 were performed when the welds were made. A second system pressure test, with the associated VT-2 examination, will be performed on all six welds during the Unit 2 EOC 14 refueling outage.

The Unit 2 EOC 14 Refueling Outage is currently scheduled to begin October 6, 1994.

Requested By: DW Dalton Date: 7/12/94

Reviewed By: Tim B. Dyer Date: 7/12/94

QA Reviewed: Q8 Mason Date: 7-12-94
MR

Approved By: Bam Millsaps Date: 7/13/94

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