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 Document Control Branch (Document Control Desk)

SUBJECT: Forwards Rev 1 to 10-yr insp interval Relief Request 4, modifying testing of valves 1, 2, 3HP-101 & 102. Request would permit acoustic/ultrasonic testing in lieu of disassembly until suitable valves can be procured.

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DUKE POWER

August 10, 1992

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

Subject: Duke Power Company
Oconee Nuclear Station
Docket No. 50-269, 270, 287
Third 10-Year Inspection Interval
Inservice Testing Program
Relief Request No. 4, Revision 1

On May 27, 1992 Duke Power submitted revision 19 to the Oconee Nuclear Station Inservice Testing Program Manual. Contained within that manual was a relief request to modify the testing of valves 1, 2, 3HP-101 & 102. This request was based on the knowledge these valves were being replaced with valves which were more easily disassembled. The replacement valves arrived just prior to the current Unit 3 outage. Final testing revealed the valves were not adequate to meet the system requirements and can not be installed. The attached revision to request # 4 is to allow acoustic/ultrasonic testing in lieu of disassembly until suitable valves can be procured. The acoustic/ultrasonic testing has been successfully completed on the Unit 3 valves.

The attached revision to request # 4 should be inserted in Oconee's Third Inservice Testing Interval Program Manual, submitted on May 27, 1992, to replace the current request # 4 contained in that package.

Very truly yours,

Joe M Davis
for J. W. Hampton
Site Vice President

Attachment

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OCONEE NUCLEAR STATION

Third Ten Year Interval

Request # 4 (Rev. 1)

I. Component for which relief is requested:

(a) Name(s) and Number(s): HPI Pump Emergency Supply Check

1HP-101, 102
2HP-101, 102
3HP-101, 102

Drawing Number/Coordinates: OFD-101A-1.3/J-3, E-3
OFD-101A-2.3/J-3, E-3
OFD-101A-3.3/J-2, E-2

(b) Function: Normally prevent backflow from HPI pump suction header to BWST. In an emergency, open to provide flow from BWST to HPI pumps, close to preclude diversion of flow from HPI suction header.

(c) ISI Class/Duke Class: B/B

(d) IWV-2000 Valve Category: C

II. Reference Code requirement which has been determined to be impractical:

IWV-3520 Tests for Check Valves.

III. Basis for requesting relief: Quarterly HPI pump tests utilize suction from the letdown storage tank. These valves are located in piping which contains highly borated water from the BWST. Stroking these valves open would cause injection of highly borated water into the RCS, necessitating extensive cleanup. Late in core life, injecting BWST water (>1800 ppm boron) would cause a rapid power transient and consequent reactor trip. Stroking these valves open at cold shutdown could prevent reactor startup due to a relatively high boron concentration. In addition, full-stroke exercising these valves at power or cold shutdown could cause overpressurization of the RCS. Full flow for these valves would require running all three HPI pumps at full flow conditions which would rapidly fill the Pressurizer and could lead to equipment damage or contamination spread.

IV. Alternate examination: These valves will be sample disassembled at refueling. The positions on check valve disassembly in NRC Generic Letter 89-04 will be followed. Disassembly frequencies may be extended if justified by an evaluation of valve history and performed disassemblies. Closure of these valves will be verified by reverse flow testing at refueling.

(over)

V. Exception:

For Unit 3 End of Cycle 13 and Unit 1 End of Cycle 14 Refueling Outages(RFO):

These valves will be acoustically/ultrasonically tested during the Unit 3 EOC 13 Refueling Outage and Unit 1 EOC 14 Refueling Outage in lieu of the specified disassembly.

VI. Basis for Exception:

These valves were to be replaced on all Oconee Units beginning with the Unit 3 EOC 13 RFO. Disassembly had been chosen as the preferred method of verifying performance of the new valves due to the costs associated with acoustic/ultrasonic monitoring(approx. \$3500 per valve) and the new valve design (swing vs. tilting disk) allowed easier access to valve internals for manual stroking.

The system requirements for these valves are restricted such that a flow test was necessary to verify the pressure drop across the replacement valves. The replacement valves for Unit 3 did not meet desired pressure loss requirements when tested.

The decision to acoustically/ultrasonically test these valves was delayed due to several factors. The Unit 3 outage began on 7/21/92. The replacement valves for Unit 3 were not received from the manufacturer until 6/26/92. A QA audit had to be performed on the valve testing laboratory before a flow test of the replacement valves could be performed. After unsuccessful initial testing of one of the valves, modifications were made to the valve at the flow testing lab to reduce the pressure losses across the valve. Even after modification, the desired pressure drop could not be achieved with the supplied valves.

Valves specifically manufactured for this unique application will be ordered and will be installed on all Oconee Units beginning with Unit 2 EOC 13 Refueling Outage(May 1993). Disassembly will be used as the alternate examination to verify full stroke requirements of these valves once installed.

VII. Alternate Test:

See V. above.