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AUTH. NAME AUTHOR AFFILIATION
 TUCKER, H.B. Duke Power Co.
 RECIPIENT NAME RECIPIENT AFFILIATION
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SUBJECT: Forwards request for Relief 89-03 from requirements of Section XI of ASME Boiler & Pressure Vessel Code.

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Duke Power Company
P.O. Box 33198
Charlotte, N.C. 28242

HAL B. Tucker
Vice President
Nuclear Production
(704)373-4531



DUKE POWER

May 22, 1989

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
Second Ten Year Interval
Request for Relief No. 89-03

Gentlemen:

Pursuant to 10CFR 50, 50.55a, please find attached request for relief number 89-03 from the requirements of Section XI of the ASME Boiler and Pressure Vessel Code (with Addenda through Winter 1980). This request is being submitted due to the impracticality of pressure testing specific welds as required by the Code following repair. The attached request concerns the inservice inspection at Oconee Nuclear Station being performed during the second ten year interval.

Very truly yours,

Hal B. Tucker

PJN/464

Attachment

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May 22, 1989
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xc: w/o diagrams

Mr. S.D. Ebnetter
Regional Administrator
U.S. Nuclear Regulatory
Commission - Region II
101 Marietta St. NW
Suite 2900 - Atlanta, GA 30323

Mr. D. B. Matthews
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. Heyward Shealy, Chief
Bureau of Radiological Health
S.C. Department of Health and
Environmental Control
2600 Bull Street
Columbus, S.C. 29201

Mr. P.H. Skinner
NRC Resident Inspector
Oconee Nuclear Station

Duke Power Company
Oconee Nuclear Station
Second Ten Year Interval
Request for Relief No. 89-03

I. Component for which relief is requested:

- (a) Name and Number: Standby Shutdown Facility (SSF) Auxiliary Service Water (ASW) pump 3-inch minimum flow line butt welds for installing new block valve CCW-293 (see attached flow diagram).
- (b) Function: The ASW pump minimum flow line test block valve is closed only when performing ISI tests on the ASW pump. Nuclear Station Modification (NSM) ON-52792 (part AM1) installs a 3 inch 1530 ANSI class gate valve in the minimum flow line for the ASW pump for the SSF. The purpose of the minimum flow line is to allow the ASW pump to be started without "dead heading" the pump prior to aligning the ASW system in the test mode or emergency mode. The new 3 inch valve will allow the minimum flow line and its associated orifice to be isolated during the quarterly ASW pump test. This will allow for more accurate testing of the ASW pump. This valve will be locked in the open position at all times except when the ASW pump test is being performed. The design pressure and temperature for this line is 1440 psig and 100°F.
- (c) ISI Class/Duke Class: ISI Class C/Duke Class C
- (d) IWV-2200 Valve Category: N/A
- (e) Materials: The piping is 3 inch schedule 80, carbon steel (SA-106, grade B). Because the new valve is designed for schedule 160 piping, 3 inch schedule 160 carbon steel (SA-106, grade B) transition pieces will also be used.

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

ASME Boiler and Pressure Vessel Code Section XI, 1980 Edition (with Addenda through Winter 1980) paragraph IWA-4400(a), which states that after repairs by welding on the pressure retaining boundary, a system hydrostatic test shall be performed in accordance with IWA-5000.

III. Basis for requesting relief:

There is no practical way to isolate the affected 3-inch line from the ASW pump. The required hydrostatic test could potentially overpressurize the ASW pump. Alternate methods of isolation were considered but are deemed impractical because they would result in additional work force expenditure and delays in returning the SSF to service which will be in a 7 day administrative Limiting Condition for Operation (LCO). It is possible that the alternate methods of isolation could have been implemented within the LCO time frame. However, based on engineering judgement, it was determined that performance of alternate examinations detailed below offered the most safe and timely option. The alternate methods considered were:

- 1) Modify the ASW pump discharge check valve (CCW-289) so that hydrostatic testing could be performed without damaging the ASW pump. Performance of this modification and the additional post modification testing it would require may require a greater period of time than is available within the LCO.
- 2) Disconnect and blank flange the discharge piping from the ASW pump so that hydrostatic testing could be performed without damaging the ASW pump. Installation of the blank flange and the post modification testing it would require may require a greater period of time than is available within the LCO.
- 3) Use a freeze plug on the line between the ASW pump and the affected portion of piping so that hydrostatic testing could be performed without damaging the ASW pump. Use of a freeze plug may require a greater period of time than is available within the LCO.

Each of these methods would unnecessarily extend the amount of time required to complete the modification, such that it may not be possible to complete both the modification and required post modification testing within the LCO. It is desirable to exit the LCO as soon as practical. Also, because of the additional technical resources required with each of the above methods, the work force expenditure would be significantly increased. Thus, the only way to perform a hydrostatic test on this section of piping is to pressurize a portion of the system which includes the ASW pump. This is impractical because it could result in damage to the ASW pump.

IV. Alternate examination:

Welds will be 100% radiographed, and a VT-2 inspection will be performed at operating temperature and pressure.

V. Evaluation of acceptability of proposed alternate testing with respect to the level of quality and safety as well as public health and safety:

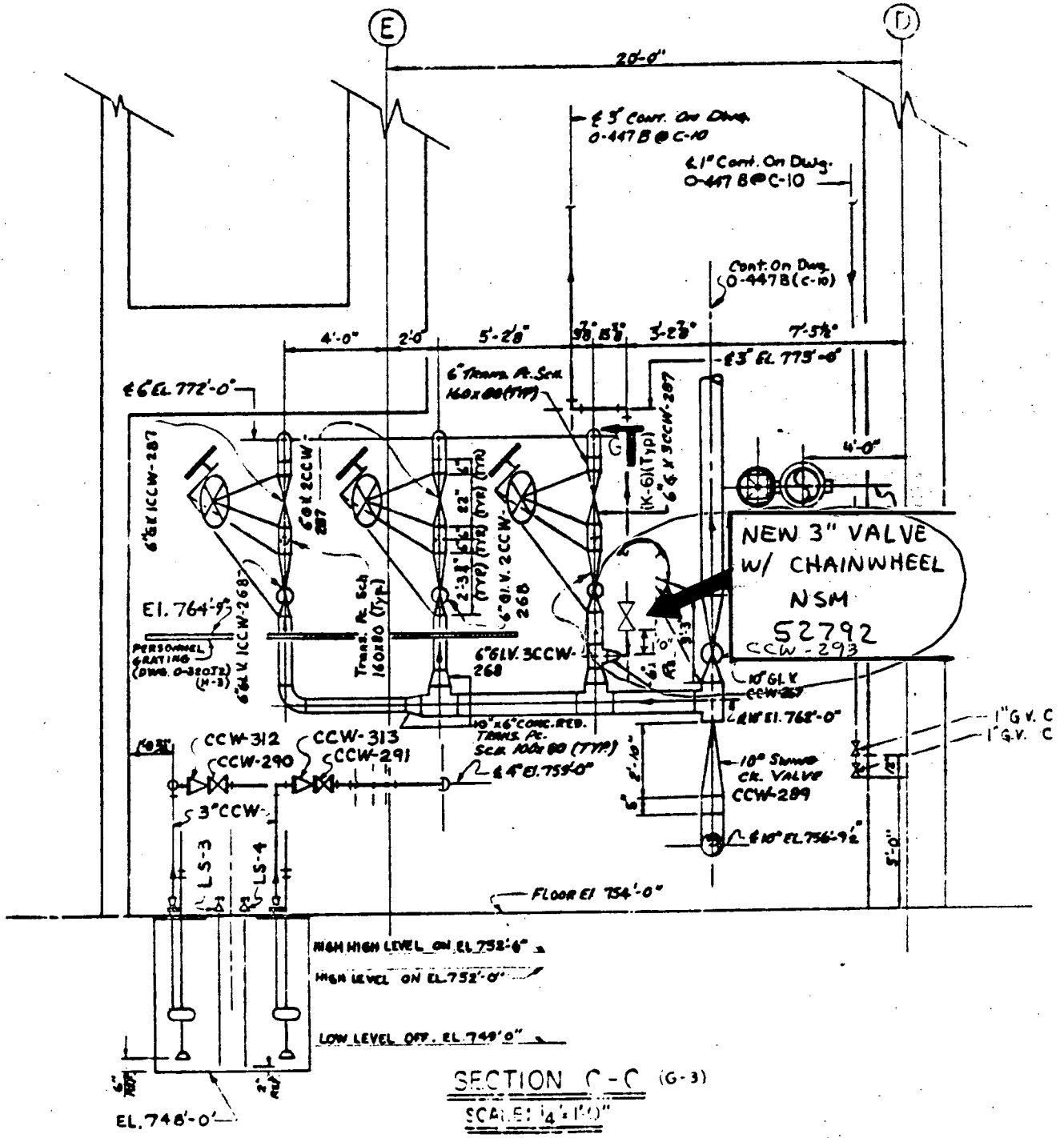
The specified method of hydrostatic testing verifies that there are no leaks at 1.25 times the design pressure. The alternate examination of a 100% radiograph of welds assures that no significant flaws are evident in the welds. Radiography can reveal small weld defects that may never be detected by a hydrostatic test. The VT-2 inspection indicates that no leaks are detectable when the system is at operating temperature and pressure.

The alternate tests provide an equivalent method to indicate a leak at the higher stress level which is normally verified by the specified method of hydrostatic testing. As such, the proposed alternate examinations provide a acceptable level of quality and safety and will not endanger the health and safety of the public.

VI. Implementation Schedule:

The radiograph will be performed when welding is complete. The VT-2 inspection will be performed during the next scheduled inservice test per ASME Section XI paragraph IWP.

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TH 102 170M
See Note 6
E Pump

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