



October 11, 1994

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U. S. Nuclear Regulatory Commission
Document Control Desk
Mail Station P1-137
Washington, DC 20555

Subject: Arkansas Nuclear One - Unit 2
Docket No. 50-368
License No. NPF-6
Inservice Testing Relief Request

Gentlemen:

The 1986 edition of the ASME Boiler and Pressure Vessel Code, Section XI, Subsection IWV-3522 requires check valves that are normally open during plant operation and whose function is to prevent reverse flow be tested in a manner that proves the disk travels to the seat promptly on cessation or reversal of flow. In accordance with 10CFR50.55a(f)(5), Entergy Operations requests relief from performing a quarterly reverse flow test for each individual valve in the three pairs of charging pump discharge check valves which are to be installed in a series configuration.

The Arkansas Nuclear One, Unit 2 (ANO-2) charging pumps have experienced low flow conditions that have been attributed to gas binding. Back leakage across the pumps' discharge swing check valves (2CVC-22A, B, and C) allows hydrogen to be stripped out of solution resulting in gas accumulation in the cylinders of the idle pumps. To correct this situation, a modification has been developed which will replace each of the three 3" hard-seated discharge swing check valves with two "Q" level 1½" soft-seated piston check valves in series. While the second check valve in each series is not a design or safety analysis requirement for the charging system, they are being added to further reduce the probability of gas back-leakage to the pumps.

Due to space limitations caused by room size and the installation of two valves in series, costly piping modifications (~\$30,000) would be required to allow the installation of the pressure taps needed to perform individual valve closure testing. Draft NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants," Section 4.1.1, describes acceptable criteria for testing of valve pairs. Entergy Operations' review of these criteria has

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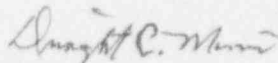
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determined that the above proposed modification meets the guidelines for an acceptable relief request to the NRC.

It is our intent to install the above described modification during the fourth quarter of 1994. After the valves are installed, preservice testing in accordance with IWV-3100 will be performed to ensure valve operability. Consistent with the installation schedule, the first quarterly surveillances of these valves may be required in January 1995. Should this relief request not be approved by the time of the first quarterly surveillances, Entergy Operations will begin to full flow test the new check valves each quarter and verify reverse flow closure by other positive means.

While Entergy Operations can test each valve by other positive means to meet the Code requirements, more confidence would be placed in the results of a differential pressure test of a valve pair. Therefore, prompt review of this relief request is requested. Should you have any questions regarding this submittal, please contact me.

Very truly yours,



Dwight C. Mims
Director, Licensing

DCM/jjd

Attachment

cc: Mr. Leonard J. Callan
Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

NRC Senior Resident Inspector
Arkansas Nuclear One
1448 S. R. 333
Russellville, AR 72801

Mr. George Kalman
NRR Project Manager Region IV/ANO-1 & 2
U. S. Nuclear Regulatory Commission
NRR Mail Stop 13-H-3
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

RELIEF REQUEST NUMBER CVCS-1

System: Chemical and Volume Control

Valves: 2CVC-22A, 2CVC-22B, 2CVC-22C, 2CVC-69A, 2CVC-69B, and 2CVC-69C

Category: C

Class: 2

Function: Supplies borated water to the reactor coolant system and prevents reverse flow through an idle charging pump

Impractical Test Requirements: IWV-3522 Exercising Procedure

(a) Normally open valves: Valves that are normally open during plant operation and whose function is to prevent reverse flow shall be tested in a manner that proves that the disk travels to the seat promptly on cessation or reversal of flow.

Basis For Relief: The discharge of each charging pump (ANO-2 has three charging pumps) has two 1½ inch piston check valves installed in series. The piston check valves both have an open and closed safety function. There is insufficient space (approximately 1½ inches) between the two piston check valves to allow for pressure taps that would be required to perform individual valve closure testing. Only one valve is needed to meet design requirements for this application.

Alternative Testing: The piston check valves will be full flow tested each quarter. The piston check valves that are in series will be treated as one valve and will be reverse flow tested each quarter. Should a valve pair fail a reverse flow closure test, both valves will be disassembled, repaired, and retested.