Docket No. 50-346

License No. NPF-3

Serial No. 1084

October 18, 1984

TOLEDO EDISON

RICHARD P. CROUSE
Vice President
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(419) 259-5221

Director of Nuclear Reactor Regulation
Attention: Mr. John F. Stolz
Operating Reactor Branch No. 4
Division of Operating Reactors
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Stolz:

Toledo Edison Company submitted a revised Inservice Inspection (and testing) program on May 15, 1980 (Serial No. 616). By letter dated May 5, 1982 (Log No. 979), your office informed us of the results of the review concerning welds, supports, etc., and system pressure tests (Sections 3 and 4). In your letter dated May 18, 1984 (Log No. 1521), your office informed us of the results of your review of pumps and valves (Sections 1 and 2). Program amendments and supplemental information were submitted as Toledo Edison Company letters dated as follows:

December 15, 1980	(Serial No. 671)
March 31, 1981	(Serial No. 702)
December 14, 1982	(Serial No. 882)
February 2, 1983	(Serial No. 908)
April 29, 1983	(Serial No. 939)
June 2, 1983	(Serial No. 953)

This letter is a continuance of these response actions and relates specifically to Relief Request Item II.B.2.1 of the Safety Evaluation by the office of Nuclear Reactor Regulation which accompanied your letter of May 18, 1984 (Log No. 1521).

We note your declared position that the High Pressure Injection line check valves (HP-48, 49, 50, 51, 56, 57, 58 and 59) perform a pressure isolation function. Furthermore, you requested Toledo Edison to develop a method to determine the condition of each valve and submit it for staff review by November 18, 1984. Your suggested methods were: pressure monitoring, leak testing, radiography and ultrasonic testing. It is further stated by your staff that if leak testing is selected as the desirable method, the valves in question be classified as A or AC and tested in accordance with IWV 3420 of the Code.

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As required in your staff's evaluation statement, Toledo Edison Company hereto defines a method of testing which is submitted as complying with your requirements. The original basis for the relief request is reiterated:

> "Reverse flow cycling during normal operation, cold shutdown and refueling is precluded by system design for individual check valves. Upstream of these valves are motor-operated, normally closed valves which are designed and analyzed as seismic Class I. These motor operated valves HP-2A, B, C, and D are stroked and timed at cold shutdown. The system normal operating pressure is continually monitored in the Control Room by a high pressure alarm set at 375 psig."

ALTERNATIVE TESTING will be conducted during the 1984 Refueling Outage using leak detection methods to determine breakdown of the pressure isolation function of each pair of back-to-back check valves. The tests will be conducted during operating Mode 3 in association with pressure monitoring of the upstream volumes in the system.

The following valves will be declared as either Category A or AC until the 5th refueling cycle; HP-2A, B, C, D, HP-22 and 23 (Reference P&ID-033) and MU-169, 196, and 197 (Reference P&ID-031). These valves will be leak tested during the 1984 Refueling Outage (Mode 5 or 6), and then at each cold shutdown (Mode 5) lasting more than 72 hours but not more frequently than once every three months.

It also should be noted that 25% of the piping welds between the Class 1 system and the Class 2 motor operated valves (a normally exempt system) were examined in compliance with IE Bulletin 79-17 as part of the ISI program.

OPTIONAL TESTING TECHNIQUES are being explored in keeping with regulatory concerns expressed in the SER and subsequent conversations between Toledo Edison and the staff. The options being considered individually or in combination are:

1. Acoustic Emission (AE) leak monitoring of the back-to-back check valves.

   The following actions would be required to conduct AE leak monitoring:

   a. Operating background data will be required to provide for proper signal assessment at each valve pair location. This requires the unit to be at operating pressure and temperature (Mode 3).

b. A mock-up of the valve configuration will be needed to provide calibration data. Material procurement, fabrication of the mock-up assembly, and test provisions need to be accomplished before actual test data can be generated.

c. Assuming AE testing can be proven from the mock-up arrangement, appropriate test equipment will need to be procured, manufactured, and deployed for plant use.

2. Radiography (RT), ultrasonic testing (UT), and infrared (IR) evaluation of the back-to-back check valves.

   For RT, UT, or IR testing, further industry testing needs to be performed to obtain base line information to prove these non-standard techniques as viable testing alternatives without compromising code requirements.

3. Line modifications with provisions for leak monitoring; i.e., additional valves or valve relocation.

   For line modifications, design and analysis of this ASME Section III Class 1 piping would need to be performed. Field verification would need to be done prior to any system design activity. Procurement of any new valves, piping and pipe fittings (Class 1 are not shelf items) could easily incur a one year lead time. Installation of new check valves inside containment between the present back-to-back check valves and the motor operated valves HP-2A, B, C, and D, with provision for a test tap would treat the existing two check valves as a unit. The present stop valve check would be used to isolate the line to allow installation of the new valve. Installation of a test tap between the existing back-to-back check valves, due to space restrictions, would need to be welded into the side of the Class 1 stop check valve body. This machining is non-routine and involves significant unknowns if done with the valve in line. Should the machining result in damage to the valve, a replacement could become a one year lead time item.

Davis-Besse Unit 1 is currently in a refueling outage scheduled for completion in late December, 1984. From the above discussions, the Optional Testing Techniques would be impractical and unrealistic to implement during the current refueling activities.

Toledo Edison will evaluate the Optional Testing Techniques, along with the Alternative Testing, to determine an acceptable method of testing to meet the inservice inspection requirements for this system.

Toledo Edison will submit a report identifying the status of the alternatives under evaluation by March 31, 1985.

Very truly yours,

RPC:RFP:JDE:bj/nlf
encl.
cc: DB-1 NRC Resident Inspector
Pete Wohld, NRC Region III