

LICENSEE EVENT REPORT (LER)

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| FACILITY NAME (1) Point Beach Nuclear Plant, Unit 2 | DOCKET NUMBER (2) 0 5 0 0 0 3 0 1 1 | PAGE (3) 1 OF 0 4 |
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TITLE (4)
Failure of Containment Isolation Valve 2-755A

| EVENT DATE (5) | | | LER NUMBER (6) | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | | | | | | | | | | | | | | | | | | | | |
|----------------|-----|------|----------------|-------------------|-----------------|-----------------|-----|------|-------------------------------|---|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH | DAY | YEAR | FACILITY NAMES | | DOCKET NUMBER(S) | | | | | | | | | | | | | | | | | | |
| 1 | 0 | 1 | 7 | 8 | 5 | 8 | 5 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 7 | 2 | 3 | 8 | 6 | 0 | 5 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 8. (Check one or more of the following) (11)

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|-------------------------|-------------------|-----------------|-------------------|--|
| OPERATING MODE (9) N | 20.402(b) | 20.408(a) | 90.73a(2)(iv) | 73.71(b) |
| POWER LEVEL (10) D | 20.408(a)(1)(i) | 90.38(a)(1) | 90.73a(2)(v) | 73.71(a) |
| | 20.408(a)(1)(ii) | 90.38(a)(2) | 90.73a(2)(vi) | OTHER (Specify in Abstract below and in Text, NRC Form 305A) |
| | 20.408(a)(1)(iii) | X 90.73a(2)(ii) | 90.73a(2)(vii)(A) | |
| | 20.408(a)(1)(iv) | 90.73a(2)(iii) | 90.73a(2)(vii)(B) | |
| | 20.408(a)(1)(v) | 90.73a(2)(iv) | 90.73a(2)(viii) | |

LICENSEE CONTACT FOR THIS LER (12)

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| NAME C. W. Fay, Vice President-Nuclear Power | TELEPHONE NUMBER AREA CODE: 4 1 4 2 7 7 - 2 8 1 1 |
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC |
|-------|--------|-----------|------------------|-------------------|-------|--------|-----------|--------------|-------------------|
| X | B D | I SV | V 10 18 15 | Y | | | | | |

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

| | | |
|-------|-----|------|
| MONTH | DAY | YEAR |
| | | |

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

As requested in the Mr. Norelius to Mr. Fay letter of May 21, 1986, Revision 1 to LER 85-002-00 is submitted to provide additional information concerning the corrective actions taken to prevent recurrence of leakage in excess of Technical Specification requirements from check valve 755A, reactor coolant pump component cooling supply line check valve.

On October 5, 1985, Unit 2 was removed from service for its eleventh refueling. Type "B" and "C" local leak tests were performed during the outage. On October 17, 1985, the total as-found leakage exceeded the Technical Specification limit of 0.06 La because of the leakage through containment isolation valves. Valve 755A was found to have leakage greater than that allowed by Technical Specifications 15.4.4.II.B and III.B. This valve is a four-inch, 150 pound, carbon steel, Velan swing check, and it appeared to stick open during the initial Type "C" test. The required test pressure could not be achieved, thus, the leakage could not be quantified.

After removal, the valve was inspected and a number of internal parts needing repair were identified. The repairs were made and the valve was retested successfully and returned to service.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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| | | YEAR 85 | SEQUENTIAL NUMBER -002 | REVISION NUMBER -01 | | | |
| | | | | | 02 | OF | 04 |

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Background:

During the leak rate testing being performed during the Unit 2 refueling outage on October 22, 1985, the "A" reactor coolant pump component cooling water supply containment isolation valve (755A) was found to have leakage which exceeded the limit listed in Technical Specification 15.4.4.III.B. The leakage through the valve by itself violated the Technical Specification limit. Due to the flow limitations of the test equipment and excessive leakage through the valve, it was not possible to pressurize the valve to the required test pressure. Thus the leak rate could not be quantified, but was in excess of 140,000 sccm.

After the valve was disassembled, inspected, repaired, reassembled, and retested, the as-left leak rate was 1680 sccm.

The subject valve is a four inch, 150 psig, carbon steel, swing check valve manufactured by the Velan Corporation. The valve is located in a component cooling water supply line to the "A" reactor coolant pump inside containment. Outside containment, additional isolation capability is available by the operator manually closing a remotely operated valve 754A in series with the 755A valve. Valve 754A passed its Type "C" test. Additionally, the component cooling water system being a closed system outside containment provides a third barrier.

Inspection of the 755A valve internals was performed and resulted in the identification of a number of possible causes of the excessive leakage. The valve was the subject of leakage in excess of the limits allowed by Technical Specifications during the past two outages. In Licensee Event Report 83-004/01T-0, the valve was identified for additional evaluation. LER 84-008 described a fault found in the valve. Corrective action was to adjust a lever bushing to allow for more free motion and removal of foreign material from the seat. At that time, no further action was planned since it was felt the root cause of the problem reported in LER 84-008 was corrected. The valve again failed its Type "C" test in 1985.

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| FACILITY NAME (1) Point Beach Nuclear Plant Unit | DOCKET NUMBER (2) 20500030185 | LER NUMBER (6) | | | PAGE (3) | |
| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | | |
| | | 85 | 002 | 01 | 03 | OF 04 |

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Valve Inspection and Repairs Performed During the 1985 Refueling Outage:

The following discussion uses reference numbers from the drawing attached. Inspection of 2-755A revealed longitudinal as well as latitudinal misalignment of the valve disc (3) and the valve seat (4) existed. The hinge bushings (12) were misaligned such that the lever (10) was out of alignment by as much as 1/16 inch off the longitudinal center line of the valve seat (4). The hinge bushings (12) were also worn oblong such that the valve disc was positioned lower than required for a proper seal. The pin on the back of the disc (3) which goes through the lever (10) also appeared to be binding somewhat, therefore not allowing the disc (3) to "rock" slightly for proper alignment with the seat (4).

Valve repairs addressed each of the problems identified. The hinge bushings (12) were replaced and one bushing was made slightly longer (1/16 inch) such that the disc (3) was aligned on the longitudinal center line of the seat (4) as well as better latitudinal alignment of the disc and seat. Additionally, the disc (3) to lever (10) connection was repaired by replacing the washer (6) which is part of the connection between the lever (10) and disc (3) with one that was thinner resulting in more ability for the disc (3) to "rock" and align with the seat (4).

New valves have been ordered such that if 2-755A fails its next Type "C" test, the valve can be replaced.

During the 1985 March Unit 1 refueling outage, a similar four inch Velan check valve in the reactor coolant pump component cooling supply line (1-755B) failed its Type "C" test due to excessive leakage. Inspection of 1-755B revealed that the valve internals had alignment and wear problems similar to those found later in 2-755B. It was determined that the major difficulty with these valves failing leak rate tests begins to occur after a number of years of service. The problems identified include alignment of the valve disc (3) with the valve seat (4) in the latitudinal direction as well as an apparent problem with disc and seat alignment when the disc cannot move freely on its connection to the swing lever (10). The hinge bushings (12), which had excessive play, were replaced and the hole through the lever arm (3) was polished to cure the problem with latitudinal alignment of the disc (3) with the seat (4). Polishing the lever arm hole also restored play in the disc to lever arm joint allowing easier seating of the disc (3) against the valve seat (4). With the disc (3) and seat (4) in alignment, the valve passed its Type "C" test after repair.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

During the 1986 Unit 1 refueling outage, 1-755B was Type "C" tested. This test, which was performed after the repair discussed above and one year of operation, resulted in a leak rate of 10 sccm. The result is encouraging since this valve has had a history of poor Type "C" test results similar to the test result history of 2-755A.

Safety Evaluation:

Operation of Unit 2 with the repaired 2-755A valve poses no safety hazard to the employees at Point Beach Nuclear Plant or the general public living around the plant. As discussed above, additional isolation capability is available outside containment by means of the operator manually closing a remotely operated valve in series with the 755A valve. This secondary valve passed its Type "C" test. Additionally, the component cooling water system is a closed system outside containment providing a third barrier. Due to the success in finding and repairing the cause of the leakage found during Type "C" testing and the fact that similar repairs made to an identical Unit 1 valve has been successfully tested after one cycle of operation, there is a high degree of confidence that the valve will pass its Type "C" test in the fall Unit 2 refueling outage.

This event was reportable in accordance with 10 CFR 50.73(a)(2)(i), "Any operation or condition prohibited by the plant's Technical Specifications."



Wisconsin Electric POWER COMPANY
231 W. MICHIGAN, P.O. BOX 2046, MILWAUKEE, WI 53201

DMB

VPNPD-86-330
NRC-86-73

July 24, 1986

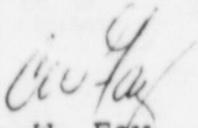
Mr. J. G. Keppler, Regional Administrator
Office of Inspection and Enforcement,
Region III
U. S. NUCLEAR REGULATORY COMMISSION
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

DOCKET 50-301
LICENSEE EVENT REPORT 85-002-01
CONTAINMENT ISOLATION VALVE 2-755A LEAK RATE F JRE
POINT BEACH NUCLEAR PLANT, UNIT 2

Enclosed is Licensee Event Report 85-002-01 for Point Beach Nuclear Plant, Unit 2. This report provides further details concerning the leak rate in excess of Technical Specification limits, investigation, and subsequent repair of a containment isolation valve (2-755A). LER 85-002-01 is filed as requested by NRC letter of May 21, 1986.

Very truly yours,


C. W. Fay
Vice President
Nuclear Power

Enclosure

Copies to NRC Resident Inspector
NRC Document Control Desk
Washington, DC (with original)

JES
JUL 28 1986