

50-331

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MR B C RUSCHE

FROM: IOWA ELECTRIC LIGHT & POWER  
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CEDAR RAPIDS, IOWA

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## DESCRIPTION

LTR TRANS THE FOLLOWING.....

PLANT NAME: Duane Arnold

## ENCLOSURE

1976 LOCAL LEAK RATE TEST CONDUCTED DURING  
REFUELING OUTAGE.....ACKNOWLEDGED  
DO NOT REMOVE

## SAFETY

## FOR ACTION/INFORMATION

## ENVIRO

9-8-76 RKB

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CONSULTANTS

To L.A.

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CONTROL NUMBER

9095

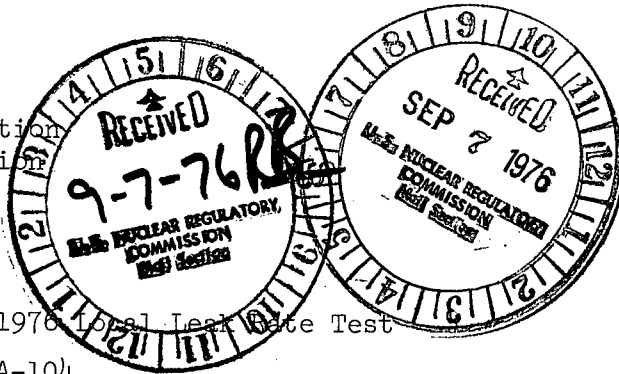
# IOWA ELECTRIC LIGHT AND POWER COMPANY

DUANE ARNOLD ENERGY CENTER  
P. O. Box 351  
Cedar Rapids, Iowa 52406

August 30, 1976  
DAEC - 76 - 259

**Regulatory Docket File**

Mr. Benard C. Rusche, Director  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
1717 H Street N.W.  
Washington, D.C. 20545



Subject: 1976 Local Leak Rate Test

File: A-104

**50-331**

Dear Mr. Rusche:

In accordance with Section 4.7.A.2.f of the DAEC Technical Specifications, this letter is submitted to you to report the results of the Type C local leak rate test conducted during the 1976 refueling outage.

The leak rate test initially failed to meet the acceptance criteria for the following reasons:

1. Two main steam isolation valves had repair work performed on them prior to performance of the test.
2. All eight MSIV's had leakage greater than 11.5 SCCFH.
3. Several penetrations had leakage beyond the range of the test assembly, so an initial total leak rate was not able to be determined.

After all repairs were made and retests were completed the total leak rate was 34,516 SCCM, which is .11 La.

Enclosed with this letter is a list of the penetrations requiring repair as a result of the leak rate test and the report submitted by the consulting firm that conducted the testing.

**9095**

Contrary to the statement in Section 3.7.3 of the consultants report, there were no Type B tests performed during the 1976 refueling outage.

Very truly yours,



G. G. Hunt, Chief Engineer  
Duane Arnold Energy Center

GGH/MS/mg

enclosure

cc: L. Root  
H. Rehrauer

Office of Nuclear Reactor Regulation (14 copies)

Director, Office of Management Information and Program Control (2)

Director, Office of Inspection Enforcement-Region III (3).

## Penetrations Requiring Repair and Retest

1. Penetration 7A - CV-4412 and CV-4413 each had leakage greater than 11.5 SCFH. This leakage was due to a slightly out-of-round pilot valve discs and surface irregularities on the main and pilot valve seats which were caused by normal operation. The main and pilot seats were lapped and bonnet gaskets and stem packing were replaced. After repairs, CV-4412 leakage was 0 SCFH and CV-4413 leakage was 1.99 SCFH. See RO 76-17.
2. Penetration 7B - CV-4415 and CV-4416 were disassembled for stem repair prior to performance of the leak test. After reassembly, each valve was found to be leaking in excess of 11.5 SCFH. This leakage was due to slightly out-of-round pilot valve discs and surface irregularities on the main and pilot valve seats which was caused by normal operation. The main and pilot valve seats were lapped and bonnet gaskets and stem packing were replaced. After repairs, CV-4415 leakage was 4.2 SCFH and CV-4416 leakage was 3.1 SCFH. See RO 76-17.
3. Penetration 7C - CV-4418 and CV-4419 each had leakage greater than 11.5 SCFH. This leakage was due to slightly out-of-round pilot valve discs and surface irregularities on the main and pilot valve seats. The main and pilot valve seats were lapped and bonnet gaskets and stem packing were replaced. After repairs, CV-4418 leakage was 6.9 SCFH and CV-4419 leakage was 4.2 SCFH. See RO 76-17.
4. Penetration 7D - CV-4420 and CV-4421 each had leakage greater than 11.5 SCFH. Leakage was due to slightly out-of-round pilot valve discs and surface irregularities on the main and pilot valve seats caused by normal operation. The main and pilot valve seats were lapped and the bonnet gaskets and stem packing were replaced. After repair, CV-4420 leakage was 9.2 SCFH and CV-4421 leakage was 4.7 SCFH. See RO 76-17.
5. Penetration 9A - Leakage through this penetration was greater than 7300 SCCM. No leakage was measured through MO-2312. Most of the leakage was due to packing leaks on V-14-4, MO-4441, and CV-2313 (not a boundary valve). These valves were repacked and CV-2313 was also disassembled, lapped, and reassembled. After repairs, the penetration leakage was 2000 SCCM, which was through MO-4441.
6. Penetration 9B - Leakage through this penetration was greater than the range of the range of the test rig. It was due to packing leaks on V-14-2, MO-4442, MO-2512, and CV-2513 (not a boundary valve); seat leakage on MO-2512; and rags in V-14-1. MO-2512, V-14-2, MO-4442, and CV-2513 were repacked, MO-2512 and CV-2513 were disassembled, lapped, and reassembled, and the rags were removed from V-14-1 (see RO 76-23). After repairs, the penetration leakage was 6050 SCCM, which was through V-14-1.
7. Penetration 10 - Leakage through this penetration was 3100 SCCM. It was due to seat and packing leaks on MO-2400. MO-2400 was disassembled, lapped, repacked and reassembled. After repairs, the leakage through the penetration was 150 SCCM.

8. Penetration 11 - Leakage through this penetration was in excess of 5000 CCM of water. It was due to packing leaks on CV-2211 and CV-2212 and seat leakage on CV-2212. Both valves were repacked and CV-2212 was disassembled, lapped, and reassembled. After repairs, leakage through the penetration was zero.
9. Penetration 23A - Leakage through this penetration was excessive. It was due to seat and packing leaks on CV-5718A. This valve was disassembled, lapped, repacked, and reassembled with a new body gasket. After repairs leakage was zero.
10. Penetration 24A - Leakage through this penetration was excessive. It was due to seat leakage on CV-5704A. This valve was disassembled, lapped, repacked, and reassembled. After repairs, leakage through the penetration was 32 SCCM.
11. Penetration 32F - Leakage through this penetration was 1000 SCCM. It was due to seat leakage on CV-1804A. This valve was disassembled, lapped, repacked, and reassembled.
12. Penetration 205 - Leakage through this penetration was 2500 SCCM. It was due to seat and packing leaks on CV-4309. This valve was disassembled, lapped, repacked and reassembled. After repairs leakage through the penetration was zero.