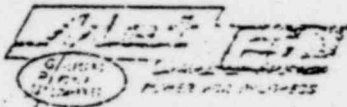


APPENDIX I

NRC REPORTABLE OCCURRENCE NO. 77/061T - Copy

1408.239

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METROPOLITAN EDISON COMPANY A MEMBER OF THE PENNSYLVANIA PUBLIC UTILITIES CORPORATION

POST OFFICE BOX 542 READING, PENNSYLVANIA 19603

TELEPHONE 215 - 929-3601

April 29, 1977
GOL 0557

POOR ORIGINAL

Mr. J. P. O'Reilly, Director
Office of Inspections and Enforcement, Region 1
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Sir:

Docket No. 50-289
Operating License No. DPR-50

In accordance with the Technical Specifications of our Three Mile Island Nuclear Station Unit 1 (TMI-1), we are reporting the following reportable occurrence:

- (1) Report Number: 77-06/1T
- (2a) Required Report Date: This report is submitted in lieu of a 14 day report.^{1/}
- (2b) Date of Occurrence: 3-24-77
- (3) Facility: Three Mile Island Nuclear Station - Unit 1
- (4) Identification of Occurrence:

Title: The Combined Local Leak Rate Test Exceeded 0.6 La.

Type: A reportable occurrence as defined by Technical Specification 6.9.2.A.(9) is that the combined local leak rate test results exceeded 0.6 La, thus requiring remedial action to prevent operation in a manner less conservative than assumed in the accident analysis in the FSAR or Technical Specifications, as listed under section 4.4.1.2.3 of the Technical Specifications.

^{1/}As stated in the telephone conversation between Mr. J. P. O'Hanlon and Mr. A. N. Fasano, concerning reportable occurrence No. 77-06, two (2) reports would be submitted to document conditions before and after repairs are done. This will be the only report sent because repairs were made in parallel with testing, resulting in the availability of data earlier than originally anticipated.

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(5) Conditions Prior to Occurrence:

Power Core: Refueling Shutdown
Elec: 0 MWe
RC Temp.: Ambient
RC Flow : 0 lbs./hr.
RC Pressure : 0 psig
PRZR Level : 0
PRZR Temp.: Ambient

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(6) Description of Occurrence:

At 1600 on March 24, 1977, during reactor refueling, the as-found total leakage for the valves and penetrations required to be leak tested was greater than 171,000 sccm. The allowable limit is 111,899 sccm.

The leakage from the following valves made up most of the excess:

CM-V2	14,000 sccm
IC-V3	24,000 sccm
IC-V4	>34,000 sccm
RB-V7	>42,000 sccm
WDG-V4	26,000 sccm

(7) Apparent Cause of Occurrence:

The cause of this occurrence has been determined to be material in that:

1. The large carbon steel gate valves (IC-V3, 4; RB-V7) installed in the closed cooling water systems do not maintain their leak tightness between tests. Operational wear causes these valves to exceed desired leak tightness values.
2. Metal shavings left in the CM system after construction damaged the seating surfaces on CM-V2.

(8) Analysis of Occurrence:

It has been determined that the leakage past these valves did not pose a threat to the health and safety of the public in that:

1. The valves were repaired to meet the acceptance criteria prior to returning the reactor to operation.
2. CM-V2, IC-V3 and WDG-V4 each had another containment isolation valve in series which had satisfactory leakage results.

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3. IC-V3, IC-V4, and RB-V7 are in closed cooling water systems. The water which would remain in these systems after an Emergency Safeguards actuation would have substantially reduced the valve leakage. (The test boundaries are completely drained for local leak rate testing, thus simulating conditions which are extremely unlikely during an accident.) In addition to the water, the system boundaries inside the R.B. would serve as a leakage barrier.

(9) Corrective Action:

IMMEDIATE: The gate valves (IC-V3, 4; RB-V7) were repaired by refinishing the seating surfaces.

The resilient seats, seals and also the ball were replaced on CM-V2. The valve and accessible piping were cleaned.

The as-left measured total leakage for the valves and penetrations required to be leak tested was approximately 45,000 scfm.

LONG TERM: An evaluation of suitable replacement valves with better leak tightness characteristics than the gate valves presently installed is being made. When the results of the evaluation indicate that valves with better maintainability and non-leakage characteristics can be made available for these service applications, replacement valves will be purchased and installed.

The Plant Operations Review Committee and Unit Superintendent have reviewed and approved the above corrective action and have taken steps to assure its completion.

(10) Failure Data:

<u>Valve</u>	<u>Size</u>	<u>Mfg.</u>	<u>Type</u>	<u>Actuator</u>	<u>Valve Material</u>	<u>Pressure Rating (psig)</u>
IC-V3, 4	6"	Walworth	Gate Valve	Air piston	CS	150
RB-V7	8"	Walworth	Gate Valve	Air piston	CS	150
WDG-V4	2"	Hancock	Gate Valve	Air diaphragm	SS	600
CM-V2	1"	Crane	Ball Valve	Air piston	SS	150

(A complete report on valve testing and repair is available on site. Several other valves were repaired due to leakage which was higher than normal, though not a significant addition to the total.)

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Mr. J. P. O'Reilly

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April 29, 1977
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SIMILAR UNUSUAL
OCCURRENCES:

76-19/34
75-17
75-29

Sincerely,

Signed - R. C. Arnold
R. C. Arnold
Vice President

RCA:DGM:dr

Attachment: Licensee Event Report

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