

50-289

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FROM: Metropolitan Edison Co.  
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## DESCRIPTION

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POOR ORIGINAL

PLANT NAME: Three Mile Island # 1

## ENCLOSURE

Reportable Occurrence # 76-21/3L on 5-21-76  
Concerning Failure of a Reactor Building isolation valve to close on an Engineered Safeguards Actuation System (ESAS) test signal.....( 1 Signed Cy. Received)  
( 3 Pages)ACKNOWLEDGED  
DO NOT REMOVENOTE: IF PERSONNEL EXPOSURE IS INVOLVED  
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## SAFETY

## FOR ACTION/INFORMATION

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METROPOLITAN EDISON COMPANY

POST OFFICE BOX 542 READING, PENNSYLVANIA 19603

TELEPHONE 215 - 929-3601

June 18, 1976  
GQL 0892

Mr. J. P. O'Reilly, Director  
Office of Inspections and Enforcement,  
U. S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, Pa. 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: ER 76-21/3L
- (2a) Required Report date: June 20, 1976
- (2b) Date of Occurrence: May 21, 1976
- (3) Facility: Three Mile Island Nuclear Station - Unit 1
- (4) Identification of Occurrence:

Title: Failure of a Reactor Building isolation valve to close on an Engineered Safeguards Actuation System (ESAS) test signal.

Type: A reportable occurrence as defined by Technical Specification 6.9.2.B(2) in that failure of containment isolation valve MU-V2B to close on an ESAS test signal lead to operation in a degraded mode permitted by a limiting condition for operation as defined by Technical Specification 3.6.6.

556

1490 014

(5) Conditions Prior to Occurrence:

Power: Core: 0%  
Elec: 0 MWe

RC Flow:  $141 \times 10^6$  lbs/hr

RC Pressure: 2155 psig

RC Temp: 532°F

PRZR: Level: 100 inches

PRZR Temp.: 655°F

(6) Description of Occurrence:

At 1245 hours on May 21, 1976, while performing Surveillance Procedure 1303-5.1, Reactor Building Cooling and Isolation System Logic Channel & Component Test, containment isolation valve MU-V2B failed to close on an auto logic ESAS test signal. MU-V2B isolates the "B" Letdown Cooler outlet line inside the Reactor Building. The valve closed (ES position) satisfactorily on auto Test 1 (Logic Channels 1 & 2) and auto Test 2 (Logic Channels 2 & 3) but failed to close on auto Test 3 (Logic Channels 1 & 3). MU-V2B then closed properly when the manual ESAS signal was used. Each time the valve closed electrically, it had to be opened manually.

Immediately, MU-V3, the redundant isolation valve for the "B" Letdown Cooler outlet line, was verified operable and MU-V2B inspected to determine the cause of the failure.

(7) Designation of Apparent Cause of Occurrence:

The cause of this occurrence has been determined to be material in that mechanical binding of MU-V2B's packing and/or stem appeared to be the cause of the valve failure. MU-V2B was tested in an effort to reproduce and locate the cause of its failure. The valve cycled properly each time, although in the first few cycles it was observed to be drawing excessive current as evidenced by heating of the thermal overload. Subsequently, measurements of running current came well within motor nameplate rating. After cycling the valve several times, the valve operated freely as evidenced by current measurements.

1490 015

June 18, 1976  
GQL 0892

(8) Analysis of Occurrence:

It has been determined that this occurrence did not constitute a threat to the health and safety of the public in that:

- a. One (1) containment isolation valve is sufficient to isolate the "B" Letdown Cooler outlet line in the event of a loss of coolant accident and,
- b. MU-V3, the redundant containment isolation valve for the "B" Letdown Cooler outlet line, was operable.

(9) Corrective Action:

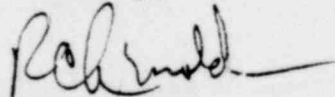
In addition to the immediate action described above, MU-V2B was cycled and its ESAS auto logic tested to verify it was fully operable. The valve will be cycled once per week for four (4) weeks to assure the problem does not recur.

(10) Failure Data:

Valve Operator Manufacturer:	Limitorque	
Type/Size:	SMB-00	
Motor:	Reliance	Valve:
	460V. 3Ø	2½"-1500# Globe Stop Valve
	60 hz	Rockwell Mfg. Co. Fig. 3628(F316)JM
	2.8 Amps	Butt Weld end.
	Type B	316 stainless steel body
	1700 RPM	Operating Press. 2500 psig
	P-56 Frame No.	Operating Temp. 300°F

Similar Occurrences: AO 74-28; AO 75-30; ER 76-20/3L

Sincerely,



R. C. Arnold  
Vice President

RCA:rk