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FILE: INCIDENT REPORT FILE

FROM: Met. Edison Co. Reading, Pa. 19603 R.C. Arnold			DATE OF DOC 7-25-75	DATE REC'D 7-29-75	LTR XX	TWX	RPT	OTHER
TO: NRC			ORIG 1 signed	CC	OTHER	SENT AEC PDR XX SENT LOCAL PDR XX		
CLASS	UNCLASS XXX	PROP INFO	INPUT	NO CYS REC'D 1		DOCKET NO: 50-289		

DESCRIPTION: Ltr advising of Abnormal Occurrence AO-50-289/75-23 on 7-16-75 re failure of an up to frequency auxiliary relay for the "B" Diesel Generator to actuate....

ENCLOSURES:

PLANT NAME: Three Mile Island Unit 1

FOR ACTION/INFORMATION DHL 7-31-75

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Regulatory Docket File

METROPOLITAN EDISON COMPANY MEMBER OF GENERAL PUBLIC UTILITIES CORPORATION

POST OFFICE BOX 542 READING, PENNSYLVANIA 19603

TELEPHONE 215 - 929-3601

July 25, 1975

GQL 1308

Director
Division of Reactor Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

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 abnormal occurrence.

- (1) Report Number: AO 50-289/75-23
- (2a) Report Date: July 25, 1975
- (2b) Occurrence Date: July 16, 1975
- (3) Facility: Three Mile Island Nuclear Station Unit 1
- (4) Identification of Occurrence:

Title: Failure of an up to frequency auxiliary relay for the "B" Diesel Generator to actuate.

Type: An abnormal occurrence as defined by the Technical Specifications, paragraph 1.8d, in that failure of the "B" Diesel auxiliary relay to actuate constituted a failure of one component of an engineered safety feature that threatened to cause the Diesel Generator to be incapable of performing its intended function.

- (5) Conditions Prior to Occurrence:

Power: Core: 100%

Elect: 833 MWe (gross)

RC Flow: 138×10^6 lb/hr

RC Press.: 2155 psig

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RC Temp.: 579°F

PRZR Level: 240 inches

PRZR Temp.: 650°F

(6) Description of Occurrence:

At 1315 hours on July 16, 1975, while performing the post maintenance testing for a work request, associated with the 1B Diesel Generator, it was discovered that the 81x1 auxiliary relay did not energize when required. The auxiliary relay contacts are used in a 2 out of 3 logic that permits the 1B Diesel Generator breaker G11-02 to close when the diesel generator is up to speed. The failure was discovered when the contacts for the 81-1 relay (frequency sensing relay) were manually closed. Closing the 81-1 relay contacts should have energized the associated auxiliary relay (81-x1) but the 81-x1 relay failed to energize.

The remaining two auxiliary "up to frequency" relays, 81x2 and 81x3, were verified operable for the B Diesel Generator Bkr. G11-02 closing circuit. The faulty 81x1 auxiliary relay was replaced and testing was satisfactorily completed verifying proper operation of the relay and the 2 out of 3 logic.

(7) Designation of Apparent Cause of Occurrence:

The apparent cause of this occurrence has been determined to be manufacture (manufacturing defect), in that:

The auxiliary relay is a Westinghouse MG-6, 125V DC relay. After winding the coil it is sprayed with a black insulating material. The terminals of the coil are normally covered during this manufacturing process to prevent them from being coated by the insulating material. The coil terminals in the failed relay were not protected from the spray and hence became coated with the spray. In addition, the bolt holding the wire lug to the coil terminal was not tight. The resulting intermittent connection caused the relay to fail.

(8) Analysis of Occurrence:

It has been determined that:

The failure of the 81x1 relay did not represent a threat to the health and safety of the public in that: (1) the B Diesel Generator was operable at the time the failure was discovered in that the remaining two frequency relays were operable (the diesel had been operated on-line within the previous 6 hours) (2) the A Diesel Generator was operable and only one diesel generator is necessary to perform the safety related functions.

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(9) Corrective Actions:

In addition to the immediate actions listed above long term corrective actions are as follows:

The failed relay has been replaced and the remaining auxiliary MG-6 relays used on the A and B diesel generators will be inspected for proper manufacture of the coils. The inspection will verify that the coil terminals were protected during the spray process as indicated by a bright metallic surface on the coil terminals. The manufacturer of the relays was contacted regarding the problem and asked for recommendations on the resolution of the problem.

The Plant Operations Review Committee and Station Superintendent have reviewed and approved the above corrective actions and have taken steps to ensure completion of the yet to be completed long term corrective actions.

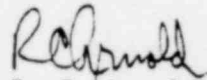
(10) Failure Data:

Westinghouse MG-6 Relay

Style No. 289B359A20

Similar Occurrences: None

Sincerely,



R. C. Arnold
Vice President

RCA:CWS:tas

cc: Office of Inspection and Enforcement, Region 1

File: 20.1.1 / 7.7.3.5.1

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