REPORT OF ABNORMAL OCCURRENCE AND/OR INCIDENT

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FILE: INCIDENT REPORT FILE

FROM: Met. Edison Company Reading, Pa. 19603 R.C. Arnold	DATE OF DOC 5-5-75	DATE REC'D 5-7-75	LTR XX	TWX	RPT	OTHER
TO: DRL	ORIG 1 signed	CC	OTHER	SENT AEC PDR: XXX SENT LOCAL PDR: XX		
CLASS	UNCLASS XXX	PROP INFO	INPUT	NO CYS REC'D 1	DOCKET NO: 50-289	

DESCRIPTION: Ltr reporting Abnormal Occurrence AO-50-289/75-13 on 4-25-75 re failure of a control rod drive xxxx breaker to trip....

ENCLOSURES:

PLANT NAME: Three Mile Island Unit 1

FOR ACTION/INFORMATION DHL 5-9-75

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METROPOLITAN EDISON COMPANY

POST OFFICE BOX 542 READING, PENNSYLVANIA 19603 TELEPHONE 215 – 929-3601

May 5, 1975
GQL 1030

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

Dear Sir:

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

In accordance with Technical Specifications for the Three Mile Island Nuclear Station Unit 1 we are reporting the following abnormal occurrence:

(1) Report Number: AO 50-289/75-13

(2a) Report Date: May 5, 1975

(2b) Occurrence Date: April 25, 1975

(3) Facility: Three Mile Island Nuclear Station Unit 1

(4) Identification of Occurrence:

Title: Failure of a Control Rod Drive Breaker to Trip.

Type: An abnormal occurrence as defined by the Technical Specifications, paragraph 1.8d, in that the failure of a control rod drive breaker to trip threatened to cause a Plant Protection System to be incapable of fully performing its intended function.

(5) Conditions Prior to Occurrence:

The reactor was at steady-state power with major parameters as follows:

Power: Core: 98%

Elec: 863 MW (Gross)

RC Flow: 138×10^6 lb/hr

RC Pressure: 2150 psig

DL

1482 232

8043

RC Temp: 579°F

PRZR Level: 220 in.

PRZR Temp: 650°F

(6) Description of Occurrence:

On April 25, 1975, voltage was lost to Channel D of the Reactor Protection System. As a result of the voltage loss, the Control Rod Drive breakers associated with Channel D tripped. Normally, no CRD breakers trip when only one RPS channel trips; however, the voltage loss caused the breakers undervoltage coils to be de-energized thus tripping the two DC breakers CB3 and CB4 associated with Channel D. Prior to restoring voltage to the undervoltage coils, an operator attempted to reclose CB3 and CB4. CB3 tripped free (i.e., did not close); however, CB4 closed and remained closed. The breaker should not remain closed with the undervoltage coil de-energized. The breaker was tested 2 times to assure it would trip on an RPS trip signal then returned to service. The Station Superintendent and Technical Services Department personnel were notified. It was determined that, even though the breaker responded correctly to the RPS trip test, corrective action should be taken. It was directed that the breaker be removed from service for investigation.

(7) Designation of Apparent Cause of Occurrence:

Procedural inadequacies led to an out of adjustment condition of a mechanical linkage within the CB4 breaker from the undervoltage trip device to the breaker trip shaft. Further, it should be noted that

a. only control rod groups III and IV could have been potentially effected by this condition (i.e. those associated with CB4),

b. this condition did not adversely affect the breaker's ability to properly function (i.e. trip) after the affected undervoltage coil was re-energized from the RPS Channel D, but that

c. the breaker's inability to properly trip existed only after the breaker had been reclosed (with no voltage present on the associated undervoltage coil) until voltage was again applied to the undervoltage coil (note: this time period was on the order of only 1 to 2 minutes).

(8) Analysis of Occurrence:

It is believed that the failure to open of the CB4 breaker did not endanger the health and safety of the public in that

a. only the ability of control rod groups III and IV to properly scram had the potential to be adversely effected (this condition existed for only 1 to 2 minutes), and

b. even during the 1 to 2 minute interval in question, redundant scram protection continued to exist for control rod groups III and IV.

(9) Corrective Action:

Immediate corrective action was taken to test other CRD trip breakers and to return the affected breaker to service. Long-term corrective action will be taken as follows: (a) the monthly RPS surveillance procedure will be modified to add verification that the CRD trip breakers will not close with the undervoltage coil de-energized, and (b) a refueling interval preventative maintenance procedure will be developed to check the adjustment on the undervoltage trip device.

The Plant Operations Review Committee reviewed the above actions and recommended to the Station Superintendent that the long-term actions be implemented. The Station Superintendent approved these actions and has taken steps to ensure that they are carried out.

(10) Failure Data:

Previous Failures: None

Equipment Identification: General Electric Co. AK-2-15 Power Circuit Breaker

Sincerely,

R. C. Arnold
Vice President

RCA:RSB:tas

cc: Office of Inspection and Enforcement, Region 1
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

File: 20.1.1 / 7.7.3.5.1