NRC FORM 195 (2-76)

U.S. NUCLEAR REGULATORY COMMISSION

DOCKET NUMBER 50-289

FILE NUMBER INCIDENT REPORT

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DESCRIPTION

LTR IDENTIFYING REPORTABLE OCCURENCE ER 76-22/3L ON 5-26-76 WHEREAS FAILURE OF THE INTERLOCK CIRCUIT BETWEEN EFFLUENT MONITOR RM-L6 AND THE EFFLUENT DISCHARGE VALVE WDL-V257 TO FUNCTION.....

PLANT NAME: Three Mile Island

ENCLOSURE

ACKNOWLEDGED

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NOTE: IF PERSONNEL EXPOSURE IS INVOLVED SEND DIRECTLY TO KREGER/J. COLLINS

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NRC FORM 195 (2-76)

METROPOLITAN EDISON COMPANY

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

June 29, 1976
GQL 0904

Regulatory Docket File

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

Dear Sir:

Docket No. 50-289
Operation 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. This submittal is being made 4 days late in accordance with the June 25, 1976 telephone conversation between our Mr. D. Grace and your Mr. R. McClintock.

(1) Report Number: ER 76-22/3L

(2a) Report Date: June 25, 1976

(2b) Event Date: May 26, 1976

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

(4) Identification of Event:

Title: Failure of the interlock circuit between Effluent Monitor RM-L6 and the Effluent Discharge Valve WDL-V257 to function.

Type: A reportable occurrence as defined by Technical Specification 6.9.2.B.(4) in that the failure of the interlock circuit between Effluent Monitor RM-L6 and the Effluent Discharge Valve WDL-V257 to function constituted an abnormal degradation of a system designed to contain radioactive material resulting from the fission process.

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(5) Conditions Prior to Event:

Power	Core: Ten (10%) Percent Elec. 0
RC Flow:	142 x 10^6 lb/hr
RC Pressure:	2155 psi
RC Temp:	563°F
PRZR Level:	220 inches
PRZR Temp:	648°F

(6) Description of Event:

On 26 May 1976, at approximately 1400 hours, during a controlled release of radioactive liquid from the "B" Waste Evaporator Condensate Storage Tank (WDL-T-11B), a high alarm was received on the Liquid Effluent Radiation Monitor, RM-L6. In responding to the alarm, Control Room personnel checked to insure that the discharge had been terminated by the high alarm, but discovered that the high alarm had failed to close the Liquid Release Valve, WDL-V-257 The discharge was manually terminated by Control Room personnel at that time.

(7) Designation of Apparent Cause of Event:

Material failure is the apparent cause of the occurrence in that the relay in the interlock circuit between the Effluent Monitor, RM-L6, and the Effluent Discharge Valve, WDL-V-257, failed to operate. Personnel error also contributed to the situation in that personnel did not immediately recognize the situation and check to ensure that the discharge valve was shut.

(8) Analysis of Event:

Analysis of the radioactive liquid prior to release indicates that the tank contained 91.6 Ci of mixed fission and activation products. Based on available dilution flow, a discharge rate of 29 GPM from the tank would have resulted in concentrations of one-one hundredth of 10 CFR 20, Appendix "B", Table II concentrations released to the river. An actual release rate of 26 GPM was used to release the contents of the tank. Based on a total release of 2220 gallons, 2.39 x 10^{-6} curies Mn^{54}, 2.13 x 10^{-5} curies Co^{58}, and 3.57 x 10^{-6} curies Cs^{137} were released. The concentration of radioactive liquid in the tank was calculated to produce a response on RM-L6 of 356 cpm above background, and by procedure the high alarm setpoint was set at 2512 (two times the expected response above background). However, due to an operator misreading and reporting the monitor background as 1800 cpm rather than the actual background of 2500 cpm, the RM-L6 high alarm occurred as soon as the release was started. Based on the above, neither 10 CFR 20 nor the Technical Specification limits were exceeded and no threat to the health and safety of the public nor adverse impact to the environment resulted from this incident.

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(9) Corrective Action:

Immediate: The discharge of radioactive liquid to the river was manually terminated immediately upon realization that the automatic interlock had failed. Upon determination that a defective relay had caused the occurrence, the relay was replaced and the controlled discharge was resumed.

Long Term: The shift supervisor immediately counseled the operator at the time of the incident. Operators on other shifts were also briefed with regard to the importance of these types of alarms and the need for corrective action.

(10a) Failure Data

Relay

Manufacturer:	Deltral Controls Corp.
Model:	Milwaukee Relay Series 105
Type:	3-Pole double-throw 10 amp 115 volt AC

(10b) Similar Events

None

Sincerely,

R. C. Arnold
Vice President

RCA:rk