

50-289

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INCIDENT REPORT

TO:

Mr. J. P. O'Reilly

FROM:

Metropolitan Edison Company  
Reading, Pa.  
R. C. Arnold

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3/31/77

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## DESCRIPTION

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## PLANT NAME:

Three Mile Island Unit No. 1

(3-P)

RJL

ACKNOWLEDGED

## ENCLOSURE

Licensee Event Report (RO 50-289/77-05/4T) on  
3/19/77 concerning change in river water  
discharge temperature exceeding 2 degrees F  
in one hour....

(1-P)

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

## FOR ACTION/INFORMATION

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## CONTROL NUMBER

771050143

1476 347



METROPOLITAN EDISON COMPANY

POST OFFICE BOX 542 READING, PENNSYLVANIA 19603

TELEPHONE 215 - 929-3601

GQL 0431  
March 31, 1977

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



Dear Sir:

**REGULATORY DOCKET FILE COPY**

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: 77-05/4T
- (2a) Required Report Date: 04-01-77
- (2b) Date of Occurrence: 03-19-77
- (3) Facility: Three Mile Island Nuclear Station - Unit I
- (4) Identification of Occurrence:

Title: Change in river water discharge temperature exceeded 2°F in one hour.

Type: A reportable occurrence as defined by Environmental Technical Specification 2.1.b.(2) in that during reactor cooldown conditions the discharge temperature changed by more than 2°F during a one hour period.

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## (5) Conditions Prior to Occurrence:

Power: Core: 0 MWt  
Elec: 0 MWe  
RC Flow : 3000 gpm Decay Heat Flow  
RC Pressure : 300 psig  
RC Temp : 229°F  
PRZR Level : 105 inches  
PRZR Temp : 430°F

## (6) Description of Occurrence:

The river water  $\Delta T$  was being maintained at 0°F up to the time the Decay Heat Removal System was placed in service at 2100 hours. As the Decay Heat Removal System was placed in service, the river water discharge temperature began to increase causing an increase in the river water  $\Delta T$ . Since the Mechanical Draft Cooling Tower was operating at its full available capacity, total river water flow was increased by starting additional river water pumps in order to reduce the river water  $\Delta T$ . To complement this action, steps were taken to reduce the primary plant cooldown rate by cutting back on the Decay Heat Closed Cooling water flow thru the Decay Heat Removal Cooler. The river water  $\Delta T$  responded and returned to within the limit of a 2°F change in  $\Delta T$  during any one hour period. The operator then began to gradually increase the primary plant cooldown rate by throttling open the Decay Heat Closed Cooling water flow thru the Decay Heat Removal Cooler. Because of control problems with DC-V-65B and DC-V-2B, the above specification was again violated as the valve would initially only respond to large demand open/close signals. The total time elapsed was three (3) hours in which the maximum change in  $\Delta T$  in one (1) hour was 3.3°F.

## (7) Apparent Cause of Occurrence:

The apparent cause of the occurrence has been determined to be material in that during the above period the following equipment was either out of service or not functioning properly:

1. MDCT "C" fan was out of service
2. DC-V-65B and DC-V-2B controllers/operators did not respond properly

## (8) Analysis of Occurrence

This change in  $\Delta T$  over any of the above three (3) hours did not adversely affect our environment in that the total river water temperature was not significantly altered. Temperature surveys being conducted five (5) meters West and twenty-five (25) meters South of our river water discharge point indicate a maximum 0.8°C (1.44°F) increase in river water temperature during the above incident.

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(9) Corrective Action:

IMMEDIATE: Steps were taken to increase total river water flow and then to control the primary plant cooldown rate to maintain the change in river water  $\Delta T$  within the above specification.

LONG TERM: DC-V-65B and DC-V-2B shall be inspected and repaired as necessary to correct the response characteristics. The "C" Mechanical Draft Cooling Tower fan is scheduled for repair during the current Refueling Outage.

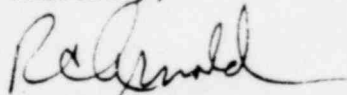
(10) Failure Data:

NA

Similar Events

EI 74-1  
EI 74-8  
EI 75-7  
EI 75-8  
EI 75-9

Sincerely,



R. C. Arnold  
Vice President

RCA:DGM:rk

Attachment: Licensee Event Report

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