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|--|---------|-----------|-----------------------|--|----------|--|-----|-------|
| FROM: Metropolitan Edison Company Reading, Pa. R. C. Arnold | | | DATE OF DOC 6-5-74 | DATE REC'D 6-7-74 | LTR X | MEMO | RPT | OTHER |
| TO: J. P. O'Reilly | | | ORIG 1 | CC | OTHER | SENT AEC PDR XXX SENT LOCAL PDR XXX | | |
| CLASS | UNCLASS | PROP INFO | INPUT | NO CYS REC'D | | DOCKET NO: | | |
| | XXX | | | 1 | | 50-289 | | |
| DESCRIPTION: Ltr furn info re abnormal occurrence of 5-29-74 re excessive free chlorine concentration at the plant river discharge, in violation of Enviro Tech Specs | | | | ENCLOSURES: ACKNOWLEDGED DO NOT REMOVE | | | | |
| PLANT NAME: THREE MILE ISLAND UNIT #1 | | | | | | | | |

FOR ACTION/INFORMATION 6-7-74 GMC

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EXTERNAL DISTRIBUTION

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| ✓1 - LOCAL PDR HARRISBURG, PA | ✓(1) XXXXX NATIONAL LAB'S ANL | 1-PLR-SAN/LA/NY |
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| ✓1 - NSIC(DUCHANAN) | ✓1-W. PENNINGTON, Rm E-201 GT | BROOKHAVEN NAT. LAB |
| 1 - ASLB | 1-CONSULTANT'S | 1-AGMED(Ruth Gussman) |
| 1 - P. R. DAVIS (AEROJET NUCLEAR) | NEWMARK/BLUME/AGBABIAN | RM-B-127, GT. |
| 16 - CYS ACRS HOLDING | 1-GERALD ULRIKSON...ORNL | 1-RD..MULLER..F-300 GT |
| | 1-B & M SWINEBROAD, Rm E-201 GT | |

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METROPOLITAN EDISON COMPANY SUBSIDIARY OF GENERAL PUBLIC UTILITIES CORPORATION

POST OFFICE BOX 542 READING, PENNSYLVANIA 19603

TELEPHONE 215 - 929-3601

June 5, 1974
GQL 0035

Mr. J. P. O'Reilly, Director
Regulatory Operations Region 1
U.S. Atomic Energy Commission
631 Park Avenue
King of Prussia, Pa. 19406

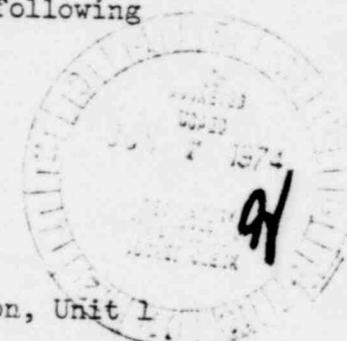


Dear Mr. O'Reilly:

Operating License DPR-50
Docket No. 50-289

In accordance with the Environmental Technical Specifications for Three Mile Island Nuclear Station, Unit 1, we are reporting the following Environmental Incident:

- (1) Reporting Number: E.I. 50-289/74-2
- (2a) Report Date: June 5, 1974
- (2b) Occurrence Date: May 29, 1974
- (3) Facility: Three Mile Island Nuclear Generating Station, Unit 1
- (4) Identification of Incident:



Excessive Free Chlorine Concentration at the Plant River Discharge which is a violation of Environmental Technical Specifications, paragraph 2.2.1a, and constitutes exceeding a limiting condition for operation.

- (5) Conditions Prior to Occurrence: Cold shutdown, prior to Initial Criticality, with major plant parameters as follows:

Power: Core: 0
Elec: 0

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RC Flow: 88,000 gpm

RC Pressure: 340 psig

RC Temperature: 150°F

PRZR Level: 100 in.

5042

REGULATORY DOCKET FILE COPY

PRZR Temp.: 432°F

- (6) Description of Incident: During a periodic evolution conducted to chlorinate the systems cooled by the Mechanical Draft Cooling Tower, the plant river water discharge sample taken 50 minutes after commencement of the evolution indicated a free chlorine concentration of .15 ppm; and the logging technician reported the out of specification reading to his supervisor.

In that chlorine addition had been terminated about 15 minutes after commencement of the evolution, it was determined that there were no additional actions which could be taken to get the reading within the specification limit.

- (7) Designation of Apparent Cause of Incident: Although not certain, there are two possible causes of the incident:
- a. Procedure, in that there are no guidelines to aid in determining how the chlorine feed rate should be varied as a function of existing conditions. Some of the conditions which can affect the amount of free chlorine consumed as it passes through the systems are:
 1. river cooling water transit time from the river cooling water pump discharge to the cooling tower discharge, which is in turn a function of the number of systems and pumps in use, and
 2. various river water conditions such as temperature, pH, and organic composition.
 - b. Material malfunction of the free chlorine monitoring apparatus.

Operator error is not thought to be the cause of the incident in that the technician who performed the analysis was trained in the analytical technique and observation of his technique on May 22, 1974, failed to reveal any errors.

- (8) Analysis of Incident: It is believed that the free chlorine level did not exceed the .1 ppm limit by a severe enough degree or for long enough duration to cause environmental damage for reasons as follow:
- a. Chlorine addition was secured about 35 minutes prior to the 50 minute sample, and the 30 minute sample was within both the free and total chlorine specification limits,
 - b. during the course of the subject chlorination period, total chlorine samples remained less than the .2 ppm total chlorine specification limit, and
 - c. the 475 lb/day chlorination rate, which was in effect at the time of the incident, had never before resulted in exceeding either the total or free chlorine specification limits.
- (9) Corrective Action: Operations personnel took no immediate actions as described in the above analysis. Prior to the next chlorination period following the incident, however, the chlorination rate at the river water screen house was reduced from 475 lbs/day to 350 lbs/day.

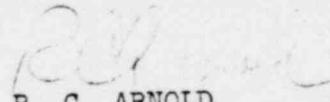
6/5/74

The Plant Superintendent wa. notified of the incident, and notified the Vice President of Generation. In that this was the first time either the free chlorine or total chlorine specification limits were exceeded at a chlorination rate of 475 lbs/day, it is believed this 26% reduction in chlorine addition rate is adequate to prevent a recurrence of this incident. Long term corrective actions will consist of utilizing the 90 day period referenced in the Environmental Technical Specifications, paragraph 2.2.1.8, to better determine if and how chlorine addition rate limits should be established as a function of existing conditions and the reliability of chlorine measuring apparatus.

These actions have been reviewed and concurred with by the Manager of Generation Engineering.

(10) Failure Data: Not Applicable.

Sincerely,


R. C. ARNOLD
Vice President-Generation

RCA:DNG:pa

cc: Director
Directorate of Licensing
U.S. Atomic Energy Commission
Washington, D.C. 20545
File: 20.1.1/7.7.3.9.1

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