

<b>FROM:</b> Metropolitan Edison Company Reading, PA R. C. Arnold		<b>DATE OF DOC</b> 6-14-74	<b>DATE REC'D</b> 6-18-74	<b>LTR</b> X	<b>TWX</b>	<b>RPT</b>	<b>OTHER</b>
<b>TO:</b> J. P. O'Reilly		<b>ORIG</b> 1	<b>CC</b>	<b>OTHER</b>	<b>SENT AEC PDR</b> XXX <b>SENT LOCAL PDR</b> XXX		
<b>CLASS</b>	<b>UNCLASE</b> XXX	<b>PROP INFO</b>	<b>INPUT</b>	<b>NO CYS REC'D</b> 1	<b>DOCKET NO:</b> 50-289		

**DESCRIPTION:**  
Ltr furn info re Enviro Incident #EI 50-289/  
74-5 of 6-8-74 re excessive free chlorine  
concentration at the plant river discharge....

**PLANT NAME:** THREE MILE ISLAND UNIT #1

**ENCLOSURES:**

**DO NOT REMOVE  
ACKNOWLEDGED**

FOR ACTION/INFORMATION 6-20-74 GMC

- |                        |                                   |                            |                          |
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**POOR ORIGINAL**  
1459 210

**INTERNAL DISTRIBUTION**

- |   |   |   |   |   |
|---|---|---|---|---|
| <u>REG FILE</u><br>AEC PDR<br>OGC, ROOM P-506A<br>MUNTZING/STAFF<br>CASE<br>GIAMBUSO<br>BOYD<br>MOORE (L)(FWR)<br>DEYOUNG(L)(FWR)<br>SKOVHOLT (L)<br>GOLLER(L)<br>P. COLLINS<br>DENISE<br>REG OPR<br>FILE & REGION(3)<br>MORRIS<br>STEELE | <u>TECH REVIEW</u><br>HENDRIE<br>SCHROEDER<br>MACCARY<br>KNIGHT<br>PAWLICKI<br>SHAO<br>STELLO<br>HOUSTON<br>NOVAK<br>ROSS<br>IPPOLITO<br>TEDESCO<br>LONG<br>LAINAS<br>BENAROYA<br>VOLLMER | <u>ENVIRO</u><br>DENTON<br>GRIMES<br>GAMMILL<br>KASTNER<br>BALLARD<br>SPANGLER<br>MULLER<br>DICKER<br>KNIGHTON<br>YOUNGBLOOD<br>REGAN<br>PROJECT LDR<br>ST. MARY (2)<br>HARLESS | <u>LIC ASST</u><br>DIGGS (L)<br>GEARIN (L)<br>GOULBOURNE (L)<br>LEE (L)<br>MAIGRET (L)<br>REED (E)<br>SERVICE (L)<br>SHEPPARD (L)<br>SLATER (E)<br>SMITH (L)<br>TEETS (L)<br>WADE (E)<br>WILLIAMS (E)<br>WILSON (L) | <u>A/T IND</u><br>BRAITMAN<br>SALTZMAN<br>B. HURT<br>PLANS<br>MCDONALD<br>DUBE w/input<br>CHAPMAN<br>INFO<br>C. MILES<br>KLECKER<br>EISENHUT<br>AOR FILE<br>D. THOMPSON (2) |
|---|---|---|---|---|

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**EXTERNAL DISTRIBUTION**

- |                                   |                                   |                          |
|-----------------------------------|-----------------------------------|--------------------------|
| 1 - LOCAL PDR HARRISBURG, PA      | 1 - (1) (XXXX) NATIONAL LAB'S ANL | 1 - PDR-SAN/LA/NY        |
| 1 - TIC (ABERNATHY)               | 1 - ASLBP (E/W Bldg, Rm 529)      | 1 - LIBRARIAN            |
| 1 - NSIC (BUCHANAN)               | 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-309    |
|                                   | 1 - B & M SWINEBROAD, Rm E-201 GT |                          |



METROPOLITAN EDISON COMPANY SUBSIDIARY OF CENTRAL PUBLIC UTILITIES CORPORATION

POST OFFICE BOX 542 READING, PENNSYLVANIA 19603

TELEPHONE 215 -- 929-3601

June 14, 1974  
GQL 0078

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

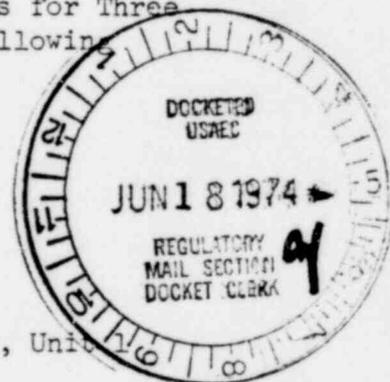


Dear Mr. O'Reilly:

Operating License DPR-50  
Docket #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. 50-289/74-5
- (2a) Report Date: June 14, 1974
- (2b) Occurrence Date: June 8, 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: Reactor critical, power escalation test at 0% of rated power in progress with major plant parameters as follows:

1459 211

REGULATORY DOCKET FILE COPY

5485

Power: Core: 0  
Elec: 0

RC Flow:  $144 \times 10^6$  #/hr.

RC Temperature: 532°F

PRZR Level: 100 in.

PRZR Temp.: 65.0°F

- (6) Description of Incident: During a periodic evolution conducted to chlorinate the systems cooled by the mechanical draft cooling tower, the plant river discharge samples taken 10 and 30 minutes after commencement of the evolution indicated a free chlorine concentration of .10 ppm.

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:

- 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 include:
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. It is also possible that there is a random variation in the concentration of chlorine in the river water. Considering that in this incident the values for chlorine in the discharge water are at the limiting value of .10 ppm, even a slight variation could be significant.
- b. Although not considered to be the cause of this incident, the possibility exists for there having been a material failure in that the apparatus used to determine chlorine in the grab samples may have not functioned properly.

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POOR ORIGINAL

(8) Analysis of Incident: It is believed that the level of free chlorine in the discharge water was not high enough and did not exist for a long enough period of time to have caused any environmental damage or to have endangered the health and safety of the public. This belief is based on the following significant points of information:

- a. Chlorine addition was secured about 15 minutes prior to collection of the 30-minute sample. Free chlorine in the 50-minute sample was measured as 0 ppm.
- b. Total chlorine in the 10-, 30-, and 50-minute grab samples was measured as .13, .12, and .00 ppm, respectively. All of these values are well below the .20 ppm limit given in the Technical Specifications.

(9) Corrective Action: Immediate corrective action involving termination of chlorine addition was not possible because chlorine addition had already been terminated by the time it was realized the limiting value for free chlorine would be exceeded, and no immediate actions were taken.

The Station Superintendent was notified of the incident. He in turn informed the Vice President-Generation and, to provide for an additional precautionary measure, it was then decided to decrease the chlorination feed rate slightly from the previous rate of 200 lbs/day prior to the next chlorination period.

Additional long-term corrective actions relating to this same problem were stated in EI 50-289/74-2 seven day letter dated June 5, 1974, and EI 50-289/74-3 seven day letter dated June 12, 1974, and will consist of:

- a. meeting with a consultant to discuss terms of a contract to evaluate
  - 1. if, and how, chlorine addition rates should be established as a function of existing conditions, and
  - 2. the reliability of the chlorine monitoring apparatus, and
- b. utilizing the yet-to-be-established 90-day period referenced in the Environmental Technical Specifications, paragraph 2.2.1.b, to further evaluate (9)a.1. and (9)a.2. above.

(10) Failure Data:

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- a. Previous Failures: Although malfunctioning of the analytical apparatus used to measure chlorine in the grab samples is not believed to be the cause of this incident, this possibility has been previously noted in EI 50-289/74-2 seven-day letter dated June 5, 1974; EI 50-289/74-3 seven-day letter dated June 12, 1974; and EI 50-289/74-4 seven-day letter dated June 13, 1974.
  
- b. Equipment Identification: It will not be possible to ascertain if the monitoring apparatus failed until the additional technical analyses mentioned in (9)a. and (9)b. above are completed; however, on the basis of what information is available, failure of the equipment is considered to be unlikely.

Sincerely,

Signed - R. C. Arnold

R. C. Arnold  
Vice President

RCA:JFV:lw

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

File 20.1.1/7.7.3.11.1

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