

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

June 4, 1976

Mr. Norman G. Moseley, Director  
Office of Inspection and Enforcement  
U. S. Nuclear Regulatory Commission  
Region II - Suite 818  
230 Peachtree Street, Northwest  
Atlanta, Georgia 30303

Serial No. 069  
PO&M/ALH:jlf  
Docket No. 50-281  
License No. DPR-37

Dear Mr. Moseley:

Pursuant to Surry Power Station Technical Specification 6.6.2, the Virginia Electric and Power Company hereby submits a copy of Reportable Occurrence No. AO-S2-76-03.

The substance of this report has been reviewed by the Station Nuclear Safety and Operating Committee and will be placed on the agenda for the next meeting of the System Nuclear Safety and Operating Committee.

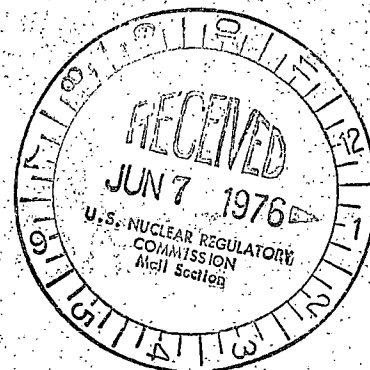
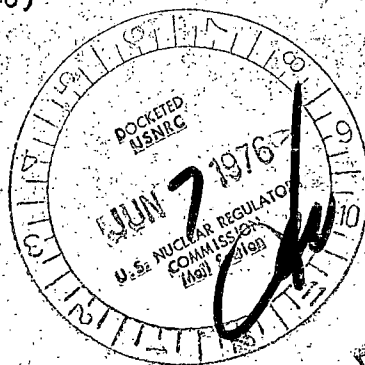
Very truly yours,

Original Signed By  
E. A. Baum *for*

G. M. Stallings  
Vice President-Power Supply  
and Production Operations

Enclosure

cc: Mr. Robert W. Reid, Chief (40) ✓  
Operating Reactors Branch 4



Regulatory Docket File

5718

# LICENSEE EVENT REPORT

CONTROL BLOCK: 

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[PLEASE PRINT ALL REQUIRED INFORMATION]

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EVENT DESCRIPTION

02 | With Unit 2 at cold shutdown following a refueling, routine chemistry analysis of the  
7 8 9 80

03 | primary coolant boron concentration indicated that an unplanned dilution had occurred.  
7 8 9 80

04 | This event is reportable per T.S.6.6.2.A(4). The immediate operator action was to  
7 8 9 80

05 | terminate the source of the dilution, which was found to be leakage from the secondary  
7 8 9 80

06 | side of 2A steam generator. An increased analysis frequency of boron concentration was  
7 8 9 80 (Con't)

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CAUSE DESCRIPTION

08 | Steam Generator "2A" had three tubes which had apparently been cut during the removal  
7 8 9 80

09 | of a section of the seventh tube support plate. When the S/G level was raised above  
7 8 9 80

10 | the level of the cuts, water passed into the primary side of loop A, which was (Con't)  
7 8 9 80

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PERSONNEL EXPOSURES

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PERSONNEL INJURIES

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OFFSITE CONSEQUENCES

15 | N/A  
7 8 9 80

LOSS OR DAMAGE TO FACILITY

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PUBLICITY

17 | N/A  
7 8 9 80

ADDITIONAL FACTORS

18 | Any adverse effect from this dilution could have been negated by boration by the use  
7 8 9 80

19 | of borated makeup, or via the accumulators. Therefore, this event did not (Con't)  
7 8 9 80

NAME: E. M. Sweeney, Jr. PHONE: (804) 357-3184

EVENT DESCRIPTION (CONTINUED)

initiated until the source of the dilution water was terminated. (A0-S2-76-03)

CAUSE DESCRIPTION (CONTINUED)

connected to the reactor vessel through a 2" bypass line.

The boron concentration of the reactor vessel changed from 2396 ppm to a minimum of 1836 ppm. This resulted in a minimum shutdown margin of 11.6%, as compared to a required margin of 1%. The shutdown margin prior to the dilution was 18.3%.

Although the dilution was discovered by chemistry analysis, the plant design incorporates features which would have alerted the operator of a dilution had it been of a magnitude such that a significant reduction in shutdown margin occurred. The increasing audio and metered source range counts, and high-flux-at-shutdown alarm would have alerted the operator to the need for primary system boration.

The actual faulty tubes resulted from the grinding operation during the tube support plate removal procedure. It was felt that all suspect tubes were correctly plugged, but the additional leaking tubes were created due to close working quarters and conditions. A visual inspection by Westinghouse personnel failed to pick up the subject leaking tubes prior to the tube plugging operation.

ADDITIONAL FACTORS (CONTINUED)

affect the health or safety of the public.