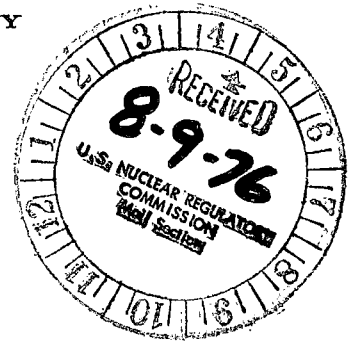


VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

July 30, 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. 161  
PO&M/ALH:jlf

Docket No. 50-280  
License No. DPR-32

Dear Mr. Moseley:

Pursuant to Surry Power Station Technical Specification 6.6.2, the Virginia Electric and Power Company hereby submits a copy of Licensee Event Report Update 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.

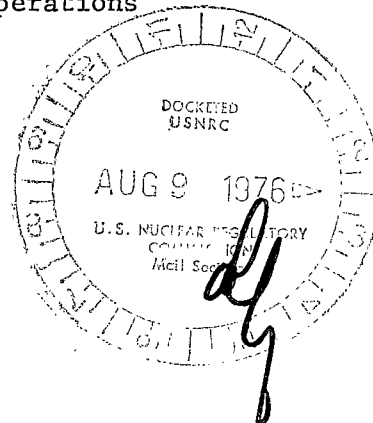
Very truly yours,

A handwritten signature in cursive script that reads "G. M. Stallings".

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

Enclosure

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



8048

~~9848~~

# LICENSEE EVENT REPORT

Update Report-Previous  
Report Date 6-2-76

CONTROL BLOCK: 

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[PLEASE PRINT ALL REQUIRED INFORMATION]

LICENSEE NAME						LICENSE NUMBER						LICENSE TYPE				EVENT TYPE								
01	V	A	S	P	S	2	0	0	-	0	0	0	0	0	-	0	0	4	1	1	1	0	0	1
7	8	9	14	15	25	26	30	31	32															

CATEGORY		REPORT TYPE	REPORT SOURCE	DOCKET NUMBER				EVENT DATE				REPORT DATE													
01	CONT	P	O	T	L	0	5	0	-	0	2	8	1	0	5	2	1	7	6	0	7	2	7	7	6
7	8	57	58	59	60	61	68	69	74	75	80	80													

### 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 than 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, by securing the auxiliary steam generator feed (continued)  
7 8 9 80

SYSTEM CODE	CAUSE CODE	COMPONENT CODE				PRIME COMPONENT SUPPLIER	COMPONENT MANUFACTURER			VIOLATION					
07	Z	Z	F	H	T	E	X	C	H	N	W	1	2	0	N
7	8	9	10	11	12	17	43	44	47	48					

### 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

FACILITY STATUS	% POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION					
11	G	0	0	0	Z	B	Routine Chemistry Sampling		
7	8	9	10	12	13	44	45	46	80

FORM OF ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY	LOCATION OF RELEASE				
12	Z	N/A	N/A				
7	8	9	10	11	44	45	80

### PERSONNEL EXPOSURES

NUMBER	TYPE	DESCRIPTION				
13	0	0	0	Z	N/A	
7	8	9	11	12	13	80

### PERSONNEL INJURIES

NUMBER	DESCRIPTION				
14	0	0	0	N/A	
7	8	9	11	12	80

### OFFSITE CONSEQUENCES

15 | N/A  
7 8 9 80

### LOSS OR DAMAGE TO FACILITY

TYPE	DESCRIPTION			
16	Z	N/A		
7	8	9	10	80

### 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. Also since the reactor was (Continued)  
7 8 9 80

NAME: T. L. Baucom

PHONE: (804) 357-3184

EVENT DESCRIPTION (CONTINUED)

pump. An increased analysis frequency of boron concentration was initiated until the source of the dilution water was terminated. (AO-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. The leaking tubes were plugged to eliminate the leak path. To prevent recurrence of an event of this type, the steam generator close out procedure has been modified to assure that an adequate leak check on the tubes has been performed prior to securing the steam generator manways. Even though this occurrence was unique to the tube support plate removal evolution on Unit 2, the procedures for both units were changed.

ADDITIONAL FACTORS (CONTINUED)

maintained in a shutdown condition by over 11% and instrumentation was available to alert the operator of a loss of shutdown margin, there were no adverse safety implications associated with this event. Therefore, this event did not affect the health or safety of the general public.

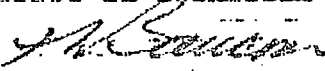
Central File  
50-281

**Veeco**

VIRGINIA ELECTRIC AND POWER COMPANY  
Surry Power Station  
P. O. Box 315  
Surry, Virginia 23883  
September 16, 1976

Director of Regulatory Operations  
130 Peachtree Street  
Suite 818  
Atlanta, Georgia 30303

This is to inform you by telecopy of a Reportable Occurrence that was noted on September 15, 1976, at Surry Nuclear Power Station. Due to a steam generator tube leak the total leakage from the reactor-coolant system exceeded the 10 gpm limit specified in Technical Specification 3.1.C.5.

  
T. L. Baucom