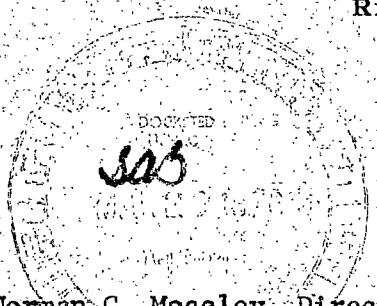
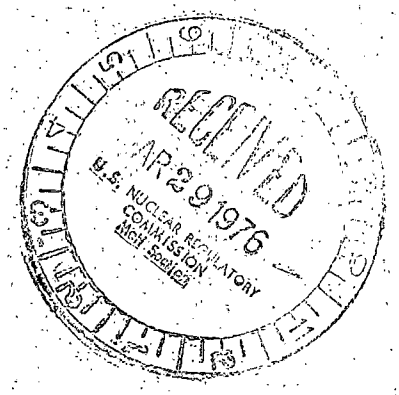
VIRGINIA ELECTRIC AND POWER COMPANY

RICHMOND, VIRGINIA 23261

March 26, 1976





Mr. Norman C. 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. 950
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 forty (40) copies of Reportable Occurrence No. AO-S1-76-02.

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,

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

Enclosures
40 copies AO-S1-76-02

cc: Mr. Robert W. Reid, Chief
Operating Reactors Branch 4

3119

LICENSEE EVENT REPORT

AO-S1-76-02

CONTROL BLOCK: [ ] (1–6)

(PLEASE PRINT ALL REQUIRED INFORMATION)

LICENSEE NAME	LICENSE NUMBER	LICENSE TYPE	EVENT TYPE
01 VASP S1 (9–14)	00-00000-00 (15–25)	4 1 1 1 0 (26–30)	0 1 (31–32)

CON'T	CATEGORY	REPORT TYPE	REPORT SOURCE	DOCKET NUMBER	EVENT DATE	REPORT DATE
01 (7–8)	M I (57–58)	T (59)	L (60)	0 5 0-0 2 8 0 (61–68)	0 3 1 3 7 6 (69–74)	0 3 2 6 7 6 (75–80)

EVENT DESCRIPTION

02 The worst break LOCA core thermal transient analysis is inaccurate in that it does (7–80)

03 not include the effects of steam generator tube plugging. This is reported pur- (7–80)

04 suant to Technical Specification 6.6.2.a.8 (AO-S1-76-02) (7–80)

05 (7–80)

06 (7–80)

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

CAUSE DESCRIPTION

08 Steam generator tube deterioration has resulted in the need to plug a number of tubes (7–80)

09 in Surry steam generators. Surry Unit No. 1 has 5.19% of its steam generator tubes (7–80)

10 plugged, and Surry Unit No. 2 has 3.37% of its tubes plugged. The cause for (cont'd) (7–80)

FACILITY STATUS	% POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION
11 Z (9)	0 0 0 (10–12)	NA (13–44)	B (45)	NA (46–80)

FORM OF ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY	LOCATION OF RELEASE
12 Z (9)	Z (10)	NA (11–44)	NA (45–80)

PERSONNEL EXPOSURES

NUMBER	TYPE	DESCRIPTION
13 0 0 0 (9–11)	Z (12)	NA (13–80)

PERSONNEL INJURIES

NUMBER	DESCRIPTION
14 0 0 0 (9–11)	NA (12–80)

OFFSITE CONSEQUENCES

15 There are no offsite consequences associated with this event. (7–80)

LOSS OR DAMAGE TO FACILITY

TYPE	DESCRIPTION
16 Z (9)	NA (10–80)

PUBLICITY

17 NA (7–80)

ADDITIONAL FACTORS

18 The nuclear steam supply system vendor has recently performed a LOCA analysis to (7–80)

19 examine the effects of plugging 6% of the steam generator tubes on each Surry unit. (7–80)

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

GPO 861-667

CAUSE DESCRIPTION (CONT'D)

steam generator tube deterioration at Surry has not been isolated. The nuclear steam supply system vendor is conducting exhaustive research into this generic problem with PWR steam generators.

ADDITIONAL FACTORS (CONT'D)

The major effect of the plugged tubes occurs during the reflooding phase whereby increasing loop flow resistance results in decreasing flooding rate.

The approved ECCS Evaluation Model (March 15, 1975 version) was used to perform the analysis using the sequence SATAN/WREFLOOD/LOCTA. The resulting peak clad temperature for 6% plugged tubes was 2142°F using the current technical specification F_Q limit of 2.1. These results show that the ECCS criteria, peak clad temperature 2200°F, are met for Surry Unit Nos. 1 and 2 with the inclusion of 6% plugged tubes.

Therefore, the health and safety of the general public was not affected by this occurrence.

Follow up analysis is being conducted by the nuclear steam supply system vendor. This analysis will define the allowable percentage of steam generator tubes that may be plugged in each Surry unit. A supplementary report will be submitted when the results of this analysis are known.