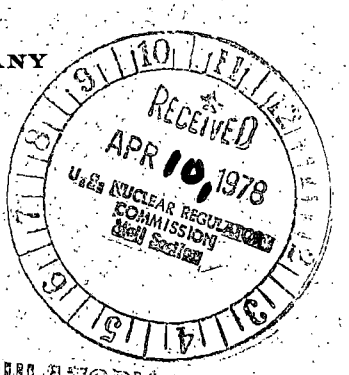
VIRGINIA ELECTRIC AND POWER COMPANY

RICHMOND, VIRGINIA 23261

April 4, 1978



Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Region II - Suite 818
Atlanta, Georgia 30303

Serial No. 179
PO&M/DLB:dgt
Docket No. 50-280
License No. DPR-32

Dear Mr. O'Reilly:

Pursuant to Surry Power Station Technical Specification 6.6.2.b(2), the Virginia Electric and Power Company hereby submits the following Licensee Event Report for Surry Unit No. 1.

LER-78-004/03L-0

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

Enclosure (3 copies)

cc: Dr. Ernst Volgenau, Director (10 copies)
Office of Inspection and Enforcement

Mr. William G. McDonald, Director (3 copies)
Office of Management Information
and Program Control

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S 1/1

NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

CONTROL BLOCK: [| | | | |] (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0 1	LICENSEE CODE: V A S P S 2 (2) LICENSE NUMBER: 0 0 - 0 0 0 0 0 - 0 0 (3) LICENSE TYPE: 4 1 1 1 1 (4) CAT: (5)
CON'T 0 1	REPORT SOURCE: L (6) DOCKET NUMBER: 0 5 0 0 0 2 8 1 (7) EVENT DATE: 0 3 0 5 7 8 (8) REPORT DATE: 0 3 3 1 7 8 (9)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 During normal full power operation, it was observed that there was no ser-
0 3 vice water flow through Charging Pump Intermediate Seal Cooler 2-SW-E-1B.
0 4 Cooler 2-SW-E-1A was verified in service and the "B" cooler was isolated
0 5 for investigation. This event is contrary to T.S. 3.3.A.8.c and is report-
0 6 able per T.S. 6.6.2.b(2). The health and safety of the public were not
0 7 affected because one cooler is sized to handle 100% of the intermediate
0 8 seal cooler heat load.

0 9	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
	W A (11)	E (12)	D (13)	V A L V E X (14)	E (15)	D (16)

(17) LER/RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	7 8	—	0 1 1	/	0 3	L	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
B (18)	A (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	Y (24)	A (25)	W 0 3 0 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 Loss of flow to the Charging Pump Intermediate Seal Cooler was due to the
1 1 failure of the cooler's discharge gate valve. Corrosion of the gate valve's
1 2 stem caused its disc to drop free and obstruct service water flow. The
1 3 disc was removed from the valve and the cooler returned to service. Sub-
1 4 sequently, a new stem was fabricated and the disc and new stem installed.

1 5	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
	E (28)	1 0 0 (29)	NA	B (31)	Operator's Observation

1 6	ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
	Z (33)	Z (34)	NA	NA

PERSONNEL EXPOSURES

1 7	NUMBER	TYPE	DESCRIPTION (39)
	0 0 0 (37)	Z (38)	NA

PERSONNEL INJURIES

1 8	NUMBER	DESCRIPTION (41)
	0 0 0 (40)	NA

LOSS OF OR DAMAGE TO FACILITY (43)

1 9	TYPE	DESCRIPTION
	Z (42)	NA

PUBLICITY

2 0	ISSUED	DESCRIPTION (45)	NRC USE ONLY
	Z (44)	NA	

NAME OF PREPARER T. L. Baucom PHONE: (804) 357-3184

Virginia Electric and Power Company
Surry Power Station, Unit 2
Docket No. 050-0281
LER-78-011/03L-0
Event Date 3-5-78

Loss of Service Water Flow Through the Charging Pump Intermediate Seal Cooler

1. Description of Event

On 3-5-78, at about 1300, with the unit at full rated power, it was observed that there was no service water flow through Charging Pump Intermediate Seal Cooler 2-SW-E-1B. This event is contrary to Technical Specification 3.3.A.8.c. and is reportable in accordance with Technical Specification 6.6.2.b(2).

2. Probable Consequence of Event

The loss of the Charging Pump Intermediate Seal Cooler 2-SW-E-1B had no effect upon the health or safety of the general public because adequate cooling of the Charging Pump Component Cooling System was available via the "A" Charging Pump Intermediate Seal Cooler, which is a full size cooler.

3. Cause of Event

The loss of flow to the "B" Intermediate Seal Cooler was due to the failure of the cooler's discharge gate valve. Corrosion of the stem permitted the disc to drop free and obstruct the service water flow path.

4. Intermediate Corrective Action

The immediate action was to verify flow to Seal Cooler 2-SW-E-1A. Cooler "B" was then isolated, the suspected valve was opened and the disc removed. A new stem was fabricated from stainless steel. The new stem and old disc were re-installed and the valve returned to service.

Following repair of the "B" cooler discharge valve, the "B" cooler was placed in service. The "A" cooler was isolated to examine its discharge valve. A similar condition of stem corrosion was found but had not advanced to the point of dropping the disc. A new stem was fabricated and installed in this valve.

5. Scheduled Corrective Action

All 1 1/2 and 2 inch valves in the Charging Pump Service Water System will be inspected during the current Steam Generator evaluation outage.

6. Action Taken to Prevent Recurrence

An engineering study was instituted to identify possible long term corrective action. From observation of the failed components, it was decided that the mode of corrosion was predominantly galvanic, due to the brass stem in contact with bronze disc. The brass, being the anode of this galvanic couple, would be

Virginia Electric and Power Company
Surry Power Station, Unit 2
Docket No. 050-0281
LER-78-011/03L-0
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Loss of Service Water Flow Through the Charging Pump Intermediate Seal Cooler

wasted, as was observed. Present intentions are to replace the existing valves with a valve design that embodies less dissimilarity of materials and possesses a "fail-as-is" design.

7. Generic Implications

The event possesses generic implications in that the corrosion observed in the cooler outlet valves may also exist in other gate valves of the Charging Pump Service Water System. The extent of the problem will be known following the inspection identified in Item 5 above.