NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

UPDATE REPORT - Previous Report Date 10-12-78

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

Line	Field	Value
01	LICENSEE CODE (2)	VANAS1
01	LICENSE NUMBER (3)	00-00000-00
01	LICENSE TYPE (4)	41111
01	CAT (5)	
CON'T 01	REPORT SOURCE (6)	L
01	DOCKET NUMBER (7)	05000338
01	EVENT DATE (8)	091978
01	REPORT DATE (9)	070279

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 During the critical steady state operation, the axial flux difference deviated
03 greater than - 5% from the target. The actual value was - 5.116% and the duration
04 was 2 minutes. This violated the +/-5% from target limit of T.S. 3.2.1. The AFD
05 deviation was reduced to less than - 5% within the 15 minute allowance of the action
06 statement. This occurrence is reportable under T.S. 6.9.1.9.B. This event did not
07 affect the health and safety of the general public.
08

09	SYSTEM CODE (11)	CAUSE CODE (12)	CAUSE SUBCODE (13)	COMPONENT CODE (14)	COMP. SUBCODE (15)	VALVE SUBCODE (16)
	RC	X	Z	ZZZZZZ	Z	Z

(17) LER/RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	78	—	090	/	03	X	—	1

ACTION TAKEN (18)	FUTURE ACTION (19)	EFFECT ON PLANT (20)	SHUTDOWN METHOD (21)	HOURS (22)	ATTACHMENT SUBMITTED (23)	NPRD-4 FORM SUB. (24)	PRIME COMP. SUPPLIER (25)	COMPONENT MANUFACTURER (26)
X	Z	Z	Z	0000	Y	N	N	W120

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 The cause of the AFD Deviation was a rapid load reduction necessitated by a clogging
11 condensate pump strainer. Corrective action was to shift condensate pumps and restore
12 power to 99% by rod withdrawal, which returned the AFD to within the -5% limit. No
13 further corrective action was required.
14

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Line	Field	Value
15	FACILITY STATUS (28)	F
15	% POWER (29)	090
15	OTHER STATUS (30)	NA
15	METHOD OF DISCOVERY (31)	A
15	DISCOVERY DESCRIPTION (32)	Operator Observation
16	ACTIVITY RELEASED (33)	Z
16	CONTENT OF RELEASE (34)	Z
16	AMOUNT OF ACTIVITY (35)	NA
16	LOCATION OF RELEASE (36)	NA
17	PERSONNEL EXPOSURES NUMBER (37)	000
17	TYPE (38)	Z
17	DESCRIPTION (39)	NA
18	PERSONNEL INJURIES NUMBER (40)	000
18	DESCRIPTION (41)	NA
19	LOSS OF OR DAMAGE TO FACILITY TYPE (42)	Z
19	DESCRIPTION (43)	NA
20	PUBLICITY ISSUED (44)	N
20	DESCRIPTION (45)	NA

NRC USE ONLY

POOR ORIGINAL

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W. R. Cartwright 703-894-5151

Update Report - Previous Report Date 10-12-78

Virginia Electric and Power Company
North Anna Power Station, Unit No. 1
Docket No. 50-338
Report No. LER/RO 78-090/03X-1

Attachment: Page 1 of 2

Description of Event

On 9-19-78, during the critical steady state operation, the Axial Flux Difference deviated greater than -5% from the target. The actual value was -5.116% and the duration of the deviation was 2 minutes. This violated the ± 5% from target limit set by T.S. 3.2.1. The AFD deviation was reduced to less than -5% within the 15 minute allowance set by the Action Statement of T.S. 3.2.1. This occurrence is reportable under T.S. 6.9.1.9.B.

Prior to this occurrence, AFD deviations outside the target band were not reported. A recent clarification by the Region II, I & E office stated that these occurrences should be reported. The previous deviations are listed below:

May 7, 1978 - 1712, 74% Reactor Power, 10 minutes Accumulated Penalty

May 8, 1978 - 0250, 74% Reactor Power, 17 minutes Accumulated Penalty

May 13, 1978 - 1200, 50% Reactor Power, 3 minutes Accumulated Penalty
- 1713, 50% <Reactor Power <85%, 19 minutes Accumulated Penalty
- 2241, 50% <Reactor Power <85%, 24 minutes Accumulated Penalty
- 2250, 50% <Reactor Power <85%, 32 minutes Accumulated Penalty

June 3, 1978 - 0100, 56% Reactor Power, 60 minutes Accumulated Penalty, Reduced Power <50%

June 6, 1978 - 0359, 58% Reactor Power, 24 minutes Accumulated Penalty

All of the above occurrences were corrected by the procedure defined in the T.S. 3.2.1 Action Statement. At no time was T.S. 3.2.1 violated and as a result there was no danger to the plant.

Probable Consequences Of Occurrence

Surveillance of the limits on Axial Flux Difference assures that the limits on the heat flux hot channel factor are not exceeded during normal operation or in the event of xenon redistribution following power changes. This provides protection against exceeding the DNBR and peak fuel clad temperatures.

Since the AFD was returned to its limit within the time allotted, there was no effect upon the safe operation of the plant. As a result, the public health and safety were not affected.

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Cause of Occurrence

The cause of the occurrence was a rapid load reduction produced by rod insertion. The load reduction was necessary due to a clogged condensate pump suction strainer. This depressed the flux to the bottom of the core forcing the AFD out of its target band.

Immediate Corrective Action

After shifting condensate pumps, reactor power was raised to 99% by withdrawing rods. This decreased the AFD deviation to within the target band.

Scheduled Corrective Action

Surveillance of the AFD continued until the plant returned to a stable state and the AFD reached its normal range.

Actions Taken to Prevent Recurrence

Since this event was a result of a rapid reduction because of decreasing condensate flow, and is an isolated instance, no further actions are required. In addition, as a result of the clarification by the I & E office, a deviation of AFD outside the target band shall be reported as required by the guidelines given in T.S. 6.9.1.9. and T.S. 3.2.1.