LICENSEE EVENT REPORT

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

01 | V A N A S 1 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | (5)
LICENSEE CODE | LICENSE NUMBER | LICENSE TYPE | CAT

CON'T
01 REPORT SOURCE L (6) | 0 5 0 0 0 3 3 8 (7) | 1 1 0 2 7 8 (8) | 1 1 2 7 7 8 (9)
DOCKET NUMBER | EVENT DATE | REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 On 11/2/78 at about 0500 during power escalation, above 50% power, an upper flux
03 deviation alarm was received. Subsequent calculations yielded a quadrant power tilt
04 ratio of 1.026 in the upper core. This was in excess of the 1.02 limit as per
05 T.S. 3.2.4.
06
07
08

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

(17) LER/RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	78	—	116	/	03	L	—	0

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

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 This quadrant power tilt is believed to be due to a nonlinear detector response at
11 lower power. Subsequent evaluation of quadrant power tilt calculations revealed that
12 the tilt ratio had returned to within the 1.02 Technical Specification limit.
13
14

	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
15	E (28)	050 (29)	N/A	A (31)	Operator Observation

	ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
16	Z (33)	Z (34)	N/A	N/A

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION (39)
17	000 (37)	Z (38)	N/A

PERSONNEL INJURIES

	NUMBER	DESCRIPTION (41)
18	000 (40)	N/A

LOSS OF OR DAMAGE TO FACILITY (43)

	TYPE	DESCRIPTION
19	Z (42)	N/A

PUBLICITY

	ISSUED	DESCRIPTION (45)	NRC USE ONLY
20	N (44)	N/A	

7812040215

NAME OF PREPARER W. R. Cartwright PHONE 703-894-5151

Virginia Electric and Power Company
North Anna Unit #1
Docket No. 50-338
Report No. LER 78-116/03L-0

Description of Event

On 11/2/78, at approximately 0500 during Mode 1 operation (escalating in power above 50%), an upper detector flux deviation alarm was received. Analysis of the detector currents indicated the presence of a quadrant power tilt ratio of 1.026 in the upper half of the core. This was in excess of T.S. 3.2.4 limit which restricts the quadrant power tilt ratio to $\leq$ 1.02.

Probable Consequences of Occurrence

The limit of 1.02 provides DNB and linear heat generation rate protection for X-Y plane power tilts. A period of two hours of operation between 1.02 and 1.09 is allowed by Technical Specifications to allow for problem analysis and correction before a power reduction is necessary to reinstate the margin of uncertainty for FQ. Since the indicated tilt was returned to below 1.02 within one hour, no detrimental effects were felt by the core. As a result, the public health and safety was not endangered by this problem.

Cause of Occurrence

There was no indication of control rod misalignment and no immediate cause for the quadrant power tilt could be found. Non-linear detector efficiency at lower power is suspected as the cause of the upper core tilt.

Immediate Corrective Action

After the presence of the tilt was noted, the initial action of T.S. 3.2.4 was followed. Rod positions were verified. Subsequent calculations of quadrant power tilt during the power escalation indicated the tilt was less than 1.02 within the two hour limitation.

Scheduled Corrective Action

No action has been scheduled since the problem appears to have been a temporary instrumentation problem at a reduced power.

Actions Taken to Prevent Recurrence

No further action required.