-77)

LICENSEE EVENT REPORT

Update Report - Previous Report Date 4-21-78

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

CONTROL BLOCK: | | | | | | | (1)

0 1	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 0 1	REPORT SOURCE	L	(6)	0 5 0 0 0 3 3 8	(7)	0 4 1 3 7 8	(8)	1 1 1 3 7 8 (9)
				DOCKET NUMBER		EVENT DATE		REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 Measurement of all rods out, beginning of core life, hot zero power moderator

0 3 temperature coefficient (MTC) revealed it was more positive than 0 ΔK/K/ F as

0 4 stated in T.S. 3.1.1.4. A value of +1.126 ΔK/K/ F was obtained. The health and

0 5 safety of the general public were not affected.

0 6

0 7

0 8

	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
0 9	R C (11)	B (12)	A (13)	Z Z Z Z Z Z (14)	Z (15)	Z (16)

(17) LER/RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	7 8	—	0 2 6	/	9 9	X	—	1

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)	Z (20)	Z (21)	0 0 0 0	Y (23)	N (24)	Z (25)	Z 9 9 9 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 Startup physics testing revealed the presence of a positive MTC for the all rods out

1 1 configuration. Rod withdrawal limits were instituted to restore a negative MTC.

1 2

1 3

1 4

	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
1 5	B (28)	0 0 1 (29)	NA	B (31)	Startup physics testing

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

PERSONNEL EXPOSURES

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

PERSONNEL INJURIES

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

LOSS OF OR DAMAGE TO FACILITY (43)

	TYPE	DESCRIPTION
1 9	Z (42)	NA

PUBLICITY

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

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GPO 917-926

Virginia Electric and Power Company
North Anna Power Station, Unit No. 1
Docket No. 50-338
Report No. LER 78-026/99X-1

Positive Moderator Coefficient

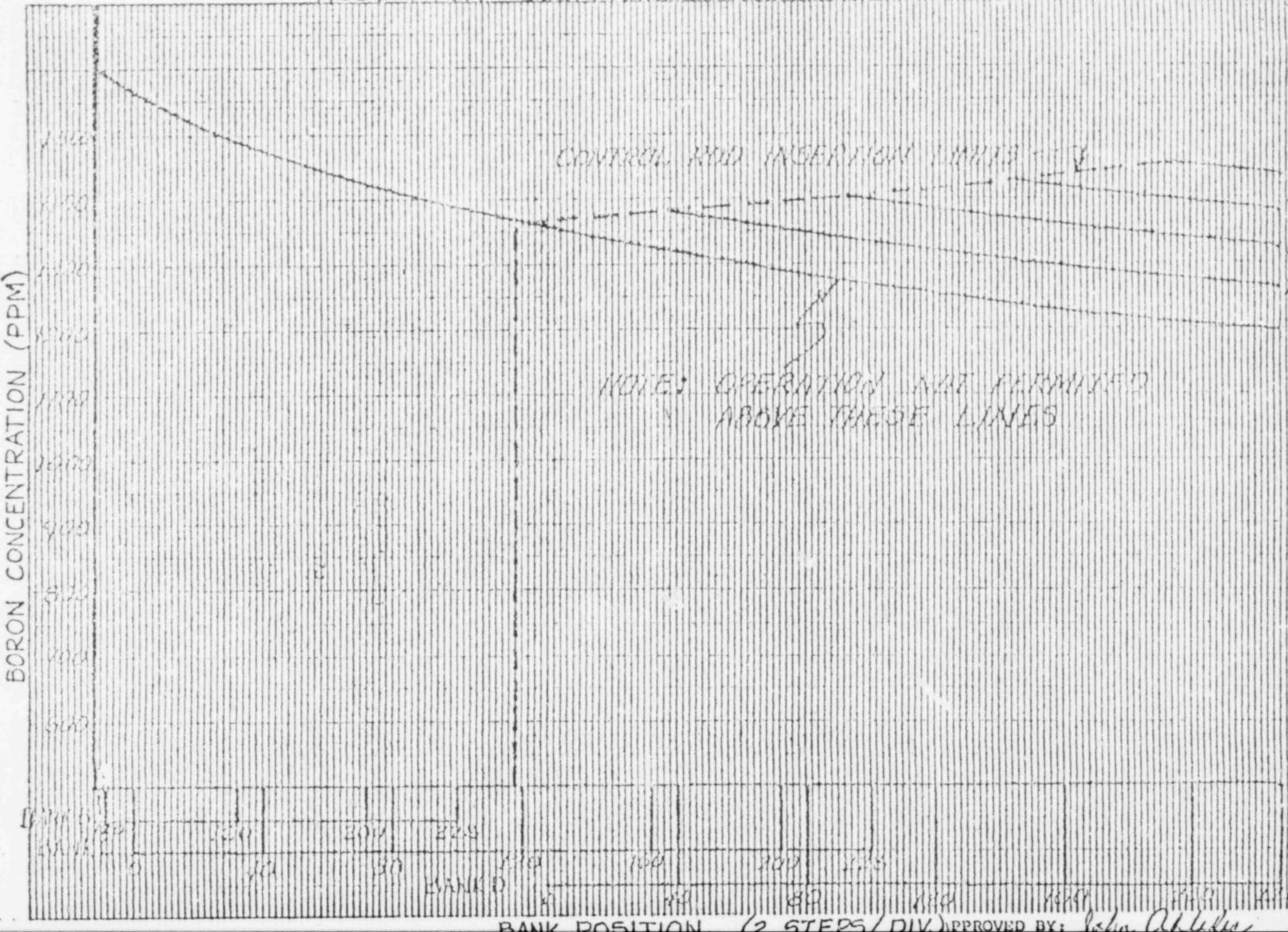
On 4/13/78, analysis of startup physics testing data revealed that a positive moderator temperature coefficient (MTC) was present at the all rods withdrawn, beginning of core life, hot zero thermal power condition. The finalized data indicated an isothermal temperature coefficient of -0.979 pcm/°F, which converts to an MTC of +1.126 pcm/°F when corrected for the Doppler Contribution (-2.105 pcm/°F), was present with an RCS boron concentration of 1322 ppm. The rod withdrawal limits illustrated by the attached figure have been instituted. It is estimated that a core burnup of 3000 MWD/MTU will be required to restore the MTC within its limits.

The withdrawal limits will apply throughout the entire first cycle of the unit or until a negative MTC for the ARO configuration is verified by measurement.

Virginia Elec. & Power Co.
North Anna Power Station, Unit #1
Docket No. 50-338
Report No. LER 78-026/99X-1

Update Report - Previous Report Date 4-21-78
47 1320
Attachment: Page 2 of 2

NORTH ANNA UNIT 1 CYCLE 1
MODERATOR COEFFICIENT ROD WITHDRAWAL RESTRICTIONS



APPROVED BY: [signature]