U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

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

/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

/0/1/ REPORT SOURCE /L/ (6) /0/5/0/0/0/3/3/8/ (7) /1/0/0/8/8/2/ (8) /1/1/0/3/8/2/ (9)
DOCKET NUMBER — EVENT DATE — REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

/0/2/ / On October 8, 1982, during a Unit 1 refueling outage, an instrument calibration /
/0/3/ / check showed that the flux penalty input to the Channel 1 overtemperature delta T/
/0/4/ / setpoint was out of tolerance. Channels II and III were correctly calibrated. /
/0/5/ / The Unit would be shutdown in the event delta flux reaches -50 percent and the /
/0/6/ / delta flux penalty for the overtemperature delta T setpoint was conservative for/
/0/7/ / delta flux values less negative than -50 percent. The public health and safety /
/0/8/ / were not affected. This event is reportable pursuant to T.S. 6.9.1.9.a. /

	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
/0/9/	/I/A/ (11)	/E/ (12)	/E/ (13)	/I/N/S/T/R/U/ (14)	/Y/ (15)	/Z/ (16)

	LER/RO REPORT NUMBER	EVENT YEAR	SEQUENTIAL REPORT NO.	OCCURRENCE CODE	REPORT TYPE	REVISION NO.
(17)	/8/2/	/-/ /0/6/6/	/\/	/0/3/	/L/	/-/ /0/

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
/E/ (18)	/Z/ (19)	/Z/ (20)	/Z/ (21)	/0/0/0/0/ (22)	/Y/ (23)	/N/ (24)	/N/ (25)	/W/1/2/0/ (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

/1/0/ / The cause of the event is unknown. Channel drift is the suspected cause. The /
/1/1/ / channel was recalibrated with satisfactory results. /
/1/2/ / /
/1/3/ / /
/1/4/ / /

	FACILITY STATUS	%POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
/1/5/	/H/ (28)	/0/0/0/ (29)	/ NA /	/B/ (31)	/Technician Observation/

	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 /	/ / / / / / / / / / / / / /

NAME OF PREPARER W. R. CARTWRIGHT PHONE (703) 894-5151

Virginia Electric and Power Company
North Anna Power Station, Unit No. 1 Attachment: Page 1 of 2
Docket No. 50-338
Report No. LER 82-066/03L-0

Description of Event

On October 8, 1982, during a Unit 1 refueling outage, an instrument calibration check showed that the flux penalty input to the Channel I overtemperature delta T setpoint was out of tolerance. For delta flux values more negative than -50 percent, the delta flux penalty input to the overtemperature delta T setpoint was less than the penalty required by T.S. table 2.2-1. The attached graph displays both the desired and as found delta flux penalty functions. This event is reportable pursuant to T.S. 6.9.1.9.a.

Probable Consequences of Occurrence

T.S. Table 2.2-1 requires that:
"for each percent that the magnitude of $(q_t - q_b)$ exceeds - 34 percent, the ΔT trip setpoint shall be automatically reduced by 3 percent of its value at RATED THERMAL POWER".

No maximum penalty or delta flux operating range for the penalty is specified by T.S. table 2.2-1.

The Westinghouse "Precautions, Limitations, and Setpoints" document for North Anna Power Station specified, prior to the current Unit 1 Tavg upgrade, that the "Cutoff" limit for the flux penalty must be greater than or equal to its value at +35 and -50 percent delta flux. The PLS "Cutoff" limits are shown on the attached graph.

The as found delta flux penalty was more conservative than the delta flux penalty required by the PLS. It appears that the as found delta flux penalty was more conservative than the penalty assumed in the safety analysis. The safety analysis is currently being checked for delta flux penalty assumptions.

The as found delta flux penalty was less conservative than the penalty specified in the Technical Specifications. The delta flux penalty function specified in the Technical Specifications is specified without bounds. Currently the delta flux penalty function is calibrated to increase as large as electronically practical. As shown on the attached graph the penalty is allowed to increase to 150 percent.

The disagreement between the as found delta flux overtemperature delta T penalty function and the penalty function specified in the Technical Specifications appears to have no safety implications. An investigation is being conducted to determine the delta flux penalty function "Cutoff" limits used in the safety analysis. If appropriate, a Technical Specification change request will be submitted to incorporate "Cutoff" limits when the investigation is complete.

The Unit would be shutdown in the event delta flux reaches -50 percent and the delta flux penalty for the overtemperature delta T setpoint was conservative for delta flux values less negative than -50 percent. Channels II and III were correctly calibrated and provided required protection (2/3 logic). The public health and safety were not affected.

Cause of Event

A review of past channel calibrations revealed no discrepancies which would have caused a shift in the delta flux overtemperature delta T setpoint penalty. A channel calibration performed on January 8, 1981 showed that the delta flux overtemperature delta T setpoint penalty was correct at that time. It appears that between January 8, 1981 and October 8, 1982 that the Channel I delta flux overtemperature delta T penalty function generator card drifted.

Immediate Corrective Action

The overtemperature delta T setpoint circuit was recalibrated with satisfactory results.

Scheduled Corrective Action

No further action is required.

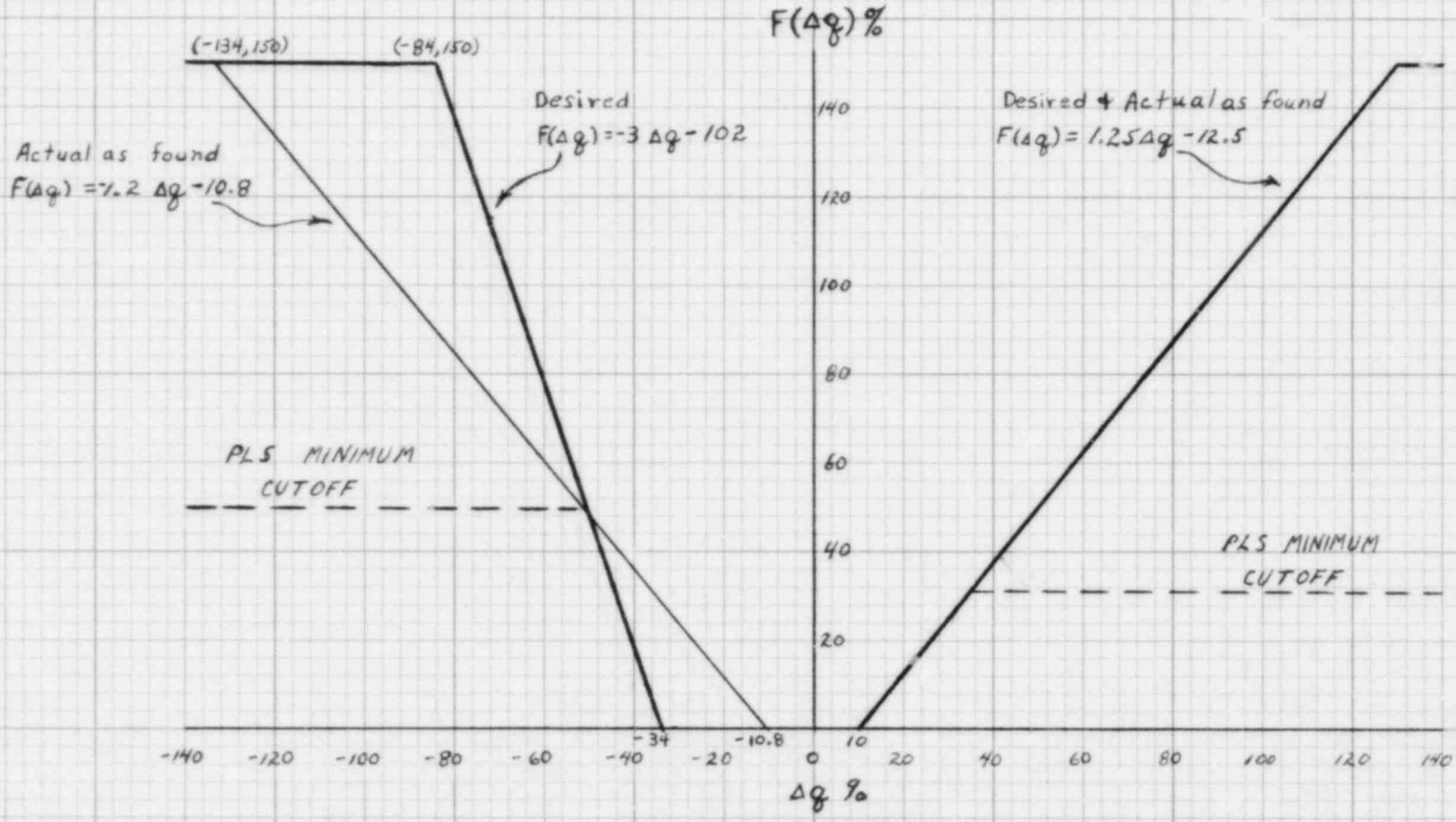
Actions Taken to Prevent Recurrence

No further actions are required.

Generic Implications

There are no generic implications associated with this event.

UNIT 1 SETPOINT REDUCTION FUNCTION FOR OVERTEMPERATURE ΔT TRIP PRIOR TO TAVG UPGRADE



MINIMUM PLS TRIP RESET CUTOFF LIMIT: +35, -50 %Δq