

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 /L/ (6) /0/5/0/0/0/3/3/8/ (7) /0/1/0/4/8/3/ (8) /0/2/0/1/8/3/ (9)
SOURCE DOCKET NUMBER EVENT DATE REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

/0/2/ / On January 4, 1983, with Unit 1 in Mode 5 and Unit 2 in Mode 2 the Meteorological/
/0/3/ / Delta temperature recorder was determined to be out of tolerance. This error /
/0/4/ / would have caused the atmospheric dispersion to appear greater than the actual /
/0/5/ / dispersion. Since no accidental releases occurred, the health and safety of the /
/0/6/ / public were not affected. This event is reportable pursuant to T.S. 3.3.4 and /
/0/7/ / 6.9.1.9.b. A similar event was reported in LER 32-063. /
/0/8/ /

SYSTEM CAUSE CAUSE COMP. VALVE
CODE CODE SUBCODE COMPONENT CODE SUBCODE SUBCODE

/0/9/ /M/C/ (11) /E/ (12) /G/ (13) /I/N/S/T/R/U/ (14) /R/ (15) /Z/ (16)
LER/RO EVENT YEAR SEQUENTIAL OCCURRENCE REPORT REVISION
REPORT NO. REPORT NO. NO.
(17) NUMBER /8/3/ /-/ /0/0/2/ / / /0/3/ /L/ /-/ /0/

ACTION FUTURE EFFECT SHUTDOWN ATTACHMENT NPRD-4 PRIME COMP. COMPONENT
TAKEN ACTION ON PLANT METHOD HOURS SUBMITTED FORM SUB. SUPPLIER MANUFACTURER

/E/ (18) /Z/ (19) /Z/ (20) /Z/ (21) /0/0/0/0/ (22) /Y/ (23) /N/ (24) /L/ (25) /T/1/5/5/
(26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

/1/0/ / This event was caused by instrument drift. The recorder was recalibrated satis- /
/1/1/ / factorily and returned to service. /
/1/2/ / /
/1/3/ / /
/1/4/ / /

FACILITY METHOD OF
STATUS %POWER OTHER STATUS DISCOVERY DISCOVERY DESCRIPTION (32)
/1/5/ /C/ (28) /0/0/0/ (29) / NA / (30) /B/ (31) / Periodic Surveillance /

ACTIVITY CONTENT
RELEASED 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)

/2/0/ /N/ (44) / NA /

NAME OF PREPARER W. R. CARTWRIGHT

PHONE (703) 894-5151

8302140098 830201
PDR ADOCK 05000338
S PDR

NRC USE ONLY

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

Virginia Electric and Power Company
North Anna Power Station, Unit No. 1
Docket No. 50-338
Report No. LER 83-002/03L-0

Attachment: Page 1 of 2

Description of Event

On January 4, 1983, with Unit 1 in Mode 5, and Unit 2 in Mode 2 the Meteorological Delta Temperature Recorder was determined to be out of tolerance during the periodic surveillance.

Probable Consequences of Occurrence

This error would have caused the atmospheric dispersion to appear greater than the actual dispersion. No accidental releases occurred since the last calibration; therefore, the health and safety of the general public were not affected.

Cause of Event

This event was caused by instrument drift of the recorder. The accuracy of the recorder was not included in the original calculation for loop accuracy in DC 80-S73. This is contrary to the requirements of Regulatory Guide 1.23. Regulatory Guide 1.23 stipulates that the entire channel accuracy refers to the composite accuracy reflecting the errors introduced by all elements in the loop from the sensor to the recorder, inclusive.

Design Change 80-S73 calculates the total accuracy for the channel by using the Root Sum of the Squares (RSS) technique. This is a valid error propagation method; however, the recorder and signal conditioner accuracies were not taken into account. In addition the original calculation produced a loop RSS accuracy of $\pm 0.186^{\circ}\text{F}$ which is larger than the allowable tolerance of $\pm 0.18^{\circ}\text{F}$.

Revision 1 to Regulatory Guide 1.23 has been proposed but has not been approved for use. The proposed guide allows a larger tolerance for averaged delta temperature. The North Anna design falls within the limits of the proposed Regulatory Guide.

Immediate Corrective Action

The recorder was recalibrated satisfactorily.

Scheduled Corrective Action

The Meteorological Monitoring System will be evaluated to determine if the design is adequate. The scope of the study will include the entire loop accuracies for all of the instrumentation required by Regulatory Guide 1.23.

The surveillance frequency will be increased until the recommendations of the study are implemented.

Actions Taken to Prevent Recurrence

No action to prevent recurrence has been taken.

Generic Implications

There are no generic implications associated with this event.