

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

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

/0/2/ / On March 29, 1982, with Unit No. 1 at 100% power it was determined by Westing- /
/0/3/ / house that 6 Solid State Protection Output Slave Relays did not have qualified /
/0/4/ / latching mechanisms. The unqualified latching mechanisms failure would not pre- /
/0/5/ / vent the relays from performing their intended safety function; therefore, the /
/0/6/ / health and safety of the general public were not affected. /
/0/7/ / /
/0/8/ / /

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

/0/9/ /I/B/ (11) /B/ (12) /A/ (13) /R/E/L/A/Y/X/ (14) /A/ (15) /Z/ (16)
LER/RO EVENT YEAR SEQUENTIAL OCCURRENCE REPORT REVISION
REPORT NO. NO.
(17) NUMBER /8/2/ /- /0/0/8/ / \ / /0/1/ /T/ /- /0/

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

/H/ (18) /C/ (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/ / Westinghouse supplied the non qualified latching mechanisms as replacements /
/1/1/ / for the original latching mechanisms. Administrative controls will be used to /
/1/2/ / mitigate the consequences of latch failure. The 6 relay latches in question /
/1/3/ / only affect 10 valves. /
/1/4/ / /

FACILITY METHOD OF
STATUS %POWER OTHER STATUS DISCOVERY DISCOVERY DESCRIPTION (32)
/1/5/ /E/ (28) /1/0/0/ (29) / NA / (30) /B/ (31) / Vendor Notification /

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) 8204280525 NRC USE ONLY
/2/0/ /N/ (44) / NA / / / / / / / / / / / / /

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

Description of Event

On March 29, 1982, with Unit No. 1 at 100% power, Westinghouse notified VEPCO that some of the installed Solid State Protection Relay latches were not qualified for category 1 use. Three latches on each train (K616, K623 and K647) were determined to be "ARMLA" style number 2604D30G04 which is not qualified. These latches were issued as replacements for the original "ARLA" type qualified latches.

Probable Consequences of Occurrence

The safety function provided by the ESF relays will not be affected by a latch failure. The latch only maintains the relay in the safety state until the signal is reset. A failure of the latch to maintain the relay in the safety position will not affect the safety actuation of the valves in question. The valves affected by K616 and K623 are Main Steam Trip Valves. If the latch fails to actuate the Main Steam Trip Valves will not reopen automatically. . Relay K647 is designed to stay latched after the safety injection signal is reset to initiate the LHSI recirculation mode when the RWST reaches the low level setpoint. The operators are procedurally required to manually initiate the recirculation mode prior to the automatic actuation.

A failure of the latching mechanism to unlatch is not an immediate safety concern due to the intended operation of the affected valves. The relays can be physically reset to reopen the Main Steam Trip Valves with no time dependent safety implications. The relay that switches the LHSI system to the recirculation mode does not have to be reset within any time frame because a RWST low-level is also required to initiate valve movement.

The consequences of latch failure are minimal due to the nature of the affected valves safety function; therefore, the health and safety of the general public was not affected.

Cause of Event

During a background information search on North Anna's Solid State Protection System Output Cabinet Relays it was discovered that two types of latches were being used. One type was an electromechanical latch (catalog number: ARLA, style number: 4993D05G06) the other a permanent magnet latch (catalog number: ARMLA, style number: 2604D30G04). Additional information concerning these latches was requested from Westinghouse. This inquiry resulted in our Westinghouse parts supplier in Richmond stating that the electromechanical latch is no longer manufactured and that the permanent magnet latch is the proper latch to use as a replacement. The onsite Westinghouse representative informed the North Anna Engineering Staff that the permanent magnet latch was never qualified for category 1 use. This fact initiated a check into how many permanent magnet latches are in service at the present time. On each train of both units the K616, K623 and K647 relays were found to have the unqualified latches in place.

Immediate Corrective Action

All Reactor Operations Personnel and Shift Technical Advisors were notified of the possible defect and Corrective Actions issued per a standing order. The Shift Technical Advisors were trained to physically reset the relays in the event that they do not unlatch.

Scheduled Corrective Action

The latching mechanisms will be replaced when suitable, qualified latches are available and plant status allows the removal of the existing latches.

Actions Taken to Prevent Recurrence

The existing procurement procedures are sufficient to prevent recurrence .

Generic Implications

The ARMLA type latches could be issued as replacements for the category 1 qualified ARMA type latches at other plants that utilize Westinghouse relays in category 1 components.