NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

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

01 — LICENSEE CODE: I L Q A D 1 (2) — LICENSE NUMBER: 0 0 0 - 0 0 0 - 0 0 0 (3) — LICENSE TYPE: 4 1 1 1 1 (4) — CAT: (5)

CON'T 01 — REPORT SOURCE: L (6) — DOCKET NUMBER: 0 5 0 0 0 2 5 4 (7) — EVENT DATE: 0 9 2 1 8 2 (8) — REPORT DATE: 1 0 0 4 8 2 (9)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 On September 20 and 21, 1982, while performing surveillance Reactor Core Isolation
03 Cooling (RCIC) Area High Temperature Isolation, QIS-28, three switches, 1-1360-14A, 1-1360-17B, and 1-1360-16C, would not trip. Technical Specification Table 3.2-1
04 requires these RCIC steam supply isolation temperature switches to trip at less than or equal to 200°F. Used to detect small RCIC Turbine area steam leaks, these 16
05 temperature switches are arranged in four one-out-of-two twice logic circuits. Only one failed switch was found in any one of these logic circuits, therefore,
06 the other three operable switches in each circuit would have performed the design function. Thus, there were no safety implications associated with this occurrence.
07
08

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

(17) LER/RO REPORT NUMBER

EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
8 2	—	0 2 0	/	0 3	L	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
C (18)	Z (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	N (24)	L (25)	U 0 7 5 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 A visual inspection by the Instrument Maintenance Department, seemed to reveal an
11 abnormally wide gap between the actuating plunger and the microswitch, but the
12 specific cause could not be determined. The failed switches were returned to
13 the manufacturer for analysis and replaced like-for-like. The new switches were
14 then calibrated and tested satisfactorily.

15 — FACILITY STATUS: H (28) — % POWER: 0 0 0 (29) — OTHER STATUS (30): NA — METHOD OF DISCOVERY: B (31) — DISCOVERY DESCRIPTION (32): Once Per Cycle Test

16 — ACTIVITY RELEASED: Z (33) — CONTENT OF RELEASE: Z (34) — AMOUNT OF ACTIVITY (35): NA — LOCATION OF RELEASE (36): NA

PERSONNEL EXPOSURES

17 — NUMBER: 0 0 0 (37) — TYPE: Z (38) — DESCRIPTION (39): NA

PERSONNEL INJURIES

18 — NUMBER: 0 0 0 (40) — DESCRIPTION (41): NA

LOSS OF OR DAMAGE TO FACILITY (43)

19 — TYPE: Z (42) — DESCRIPTION:

8210190700 821004
PDR ADOCK 05000254
S PDR

PUBLICITY

20 — ISSUED: N (44) — DESCRIPTION (45): NA — NRC USE ONLY

NAME OF PREPARER M Preuss PHONE: 309-654-2241, ext 197

GPO 917-926

I. LER NUMBER: LER/RO 82-20-03L-0

II. LICENSEE NAME: Commonwealth Edison Company
Quad-Cities Nuclear Power Station

III. FACILITY NAME: Unit One

IV. DOCKET NUMBER: 050-254

V. EVENT DESCRIPTION:

On September 20 and 21, 1982, while performing refueling outage surveillance, Reactor Core Isolation Cooling (RCIC) Area High Temperature Isolation, QIS-28, it was found that three of the 16 switches, 1-1360-14A, 1-1360-17B, and 1-1360-16C, would not trip. The faulty switches were tested to a temperature in excess of the Technical Specification Table 3.2-1 200°F limit without tripping. Visual inspection showed a noticeable gap between the actuating plunger and the microswitch. Such a gap is not normal, and further increases in temperature would not have moved the plunger enough to actuate the microswitch.

This type of switch, manufactured by the United Electric Company, has been in use on this RCIC System since December, 1980; it has also been used on the High Pressure Coolant Injection System since October 1976. Instances of setpoint drift have occurred with these switches in the past, the latest such event was reported in Licensee Event Report 81-22/03L, DPR-30. This is the first occurrence of complete failure of this type of temperature switch.

VI. PROBABLE CONSEQUENCES OF THE OCCURRENCE:

Sixteen RCIC Area High Temperature Switches are provided for the purpose of detecting steam leaks from the RCIC steam lines and Turbine area. Upon a high temperature trip, the switches initiate a Group V Isolation, closing RCIC steam line isolation valves MO-1-1301-16 and MO-1-1301-17. The 16 switches are grouped in sets of four to monitor four different areas, using a one-out-of-two-twice logic scheme for each area. Since not more than one switch from any set was inoperable, the other three operable switches would have provided an isolation signal in the event of a high temperature condition in the RCIC steam line or Turbine area. Therefore, this occurrence would not have prevented the RCIC Area High Temperature Switches from isolating the RCIC steam supply line in the event of a steam leak. Furthermore, the inoperable switches would have not affected normal RCIC operation.

VII. CAUSE:

At this time, the cause of the occurrence is not known. The faulty switches have been returned to the United Electric Company for failure analysis. A visual inspection by the Instrument Mechanic involved in this test indicated a possible problem with the actuating plunger exists, but the specific cause could not be immediately determined. The failure analysis results from the United Electric Company will be submitted in a supplemental report.

VIII. CORRECTIVE ACTION:

The immediate corrective action was to replace the inoperable switches with switches of the same make and model. These switches, Model 88, Type F7 have, as left, setpoints of 185°F +5°F, -10°F.