NRC FORM 366
(7-77)

LICENSEE EVENT REPORT

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

[0 1] [I L Q A D 2] (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 2 6 5] (7) [1 0 0 2 7 8] (8) [1 0 3 0 7 8] (9)
DOCKET NUMBER | EVENT DATE | REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

[0 2] While performing procedure QTS 130-4, Control Rod Drive Scram Timing, control rod N-10
[0 3] (50-39) failed to scram upon receiving a test signal from panel 902-16. The rod was
[0 4] fully inserted and electrically disarmed in accordance with Technical Specification
[0 5] 3.3.C.4. The safety implications of this occurrence were minimal due to the fact the
[0 6] back-up scram valves, SO-2-032-19A & B, would have scrammed the rod in the event a
[0 7] full reactor scram signal was received.
[0 8]

[0 9] SYSTEM CODE [R B] (11) | CAUSE CODE [E] (12) | CAUSE SUBCODE [B] (13) | COMPONENT CODE [V A L V O P] (14) | COMP. SUBCODE [E] (15) | VALVE SUBCODE [E] (16)

(17) LER/RO REPORT NUMBER: EVENT YEAR [7 8] | SEQUENTIAL REPORT NO. [0 3 4] | OCCURRENCE CODE [0 3] | REPORT TYPE [L] | REVISION NO. [0]

ACTION TAKEN [A] (18) | FUTURE ACTION [A] (19) | EFFECT ON PLANT [Z] (20) | SHUTDOWN METHOD [Z] (21) | HOURS (22) [0 0 0 0] | ATTACHMENT SUBMITTED [Y] (23) | NPRD-4 FORM SUB. [N] (24) | PRIME COMP. SUPPLIER [N] (25) | COMPONENT MANUFACTURER [A 4 9 9] (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

[1 0] The cause of this occurrence is attributed to the malfunction of the 118 scram
[1 1] solenoid valve. The valve's core assembly spring was found to be detached from the
[1 2] core and the valve was unable to shift to the de-energized position and exhaust the
[1 3] air line. The valve was rebuilt and the rod was successfully scram timed.
[1 4]

[1 5] FACILITY STATUS [E] (28) | % POWER [0 2 5] (29) | OTHER STATUS (30) NA | METHOD OF DISCOVERY [B] (31) | DISCOVERY DESCRIPTION (32) Routine Test

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

[1 7] PERSONNEL EXPOSURES: NUMBER [0 0 0] (37) | TYPE [Z] (38) | DESCRIPTION (39) NA

7811240204

[1 8] PERSONNEL INJURIES: NUMBER [0 0 0] (40) | DESCRIPTION (41) NA

[1 9] LOSS OF OR DAMAGE TO FACILITY (43): TYPE [Z] (42) | DESCRIPTION NA

[2 0] PUBLICITY: ISSUED [N] (44) | DESCRIPTION (45) NA | NRC USE ONLY

NAME OF PREPARER G. Tietz PHONE 309-654-2241, ext 247

GPO 791-924

I. LER NUMBER: RO 78-34/03L-0

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

III. FACILITY NAME: Unit Two

IV. DOCKET NUMBER: 050-265

V. EVENT DESCRIPTION:

On October 2, 1978, Control Rod Drive Scram Timing, procedure QTS 130-4, was in progress when control rod N-10 (50-39) failed to scram upon receiving a signal from test panel 902-16. Scram timing was being performed to fulfill Technical Specification requirement 4.3.C.2.

Repeated scram signals were given from the test panel to determine if a malfunction existed in the test switch. When the rod still would not scram, it was subsequently fully inserted to 00 and disarmed electrically. With the rod fully inserted, the local fuses, 590-716A & B, for the scram solenoid valves, SO-2-035-117 and 118, were pulled to ascertain if the problem was the test circuitry or the scram solenoids. The 118 scram solenoid valve did not actuate, indicating the problem was in the valve. Work request number 4565-78 was written to repair the valve. All other control rods which were scram timed were found to have acceptable scram times. Both scram solenoids were removed and rebuilt with a spare parts kit. The rod was scrammed and the times were all within specification.

VI. PROBABLE CONSEQUENCES OF THE OCCURRENCE:

The safety implications of this occurrence were minimal due to the fact the rod would have scrammed if a scram signal was received. This is because the main air header and the air line to the scram valves will bleed down when the back-up scram valves, SO-2-032-19A & B, isolate. The scram valves would then function normally and the rod would scram.

VII. CAUSE:

The cause of this occurrence is attributed to the malfunction of the 118 scram solenoid valve. The reason the valve did not actuate was the valve's core assembly spring was detached from the core. This meant the core was unable to shift to the de-energized position and exhaust the air line. There is no apparent reason for the detached spring. However, the spring probably came loose during operation since the rod was tested and proved operable on March 8, 1978.

VIII. CORRECTIVE ACTION:

The immediate corrective action was to fully insert the control rod. To correct the problem, the scram solenoid valve was disassembled and rebuilt with replacement parts. A new spring and core assembly were included in these parts. To prevent further occurrences of this nature, the station is adopting a preventive maintenance program to gradually overhaul all the scram solenoid valves.

The solenoid valve is manufactured by the American Solenoid Company, catalogue number HVA 90-405-2a. The valve is a one-half inch size.