NRC FORM 366
(7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

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

0 1 LICENSEE CODE: I L Q A D 2 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 0 1 REPORT SOURCE: L ⑥ DOCKET NUMBER: 0 5 0 0 0 2 6 5 ⑦ EVENT DATE: 0 2 2 3 8 2 ⑧ REPORT DATE: 0 3 0 3 8 2 ⑨

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES ⑩

0 2 On February 23, 1982, during a Reactor Vessel Hydrostatic Pressure Test, an
0 3 approximate leak of 0.25 gpm was found in the Control Rod Drive (CRD) 42-07
0 4 withdrawal line, at the point of inlet to the CRD housing flange. Inspection of
0 5 the insert piping of CRD 42-07 and the withdrawal and insert lines of the
0 6 adjacent CRD showed no pitting. Even complete failure of the line would not
0 7 have prevented insertion or scramming of the rod nor would the leakage have exceeded Technical Specification 3.6.D.1 limits.
0 8 Thus, the effects of this occurrence were minimal.

0 9 SYSTEM CODE: R B ⑪ CAUSE CODE: E ⑫ CAUSE SUBCODE: X ⑬ COMPONENT CODE: P I P E X X ⑭ COMP. SUBCODE: A ⑮ VALVE SUBCODE: Z ⑯

⑰ LER/RO REPORT NUMBER: EVENT YEAR: 8 2 — SEQUENTIAL REPORT NO.: 0 0 3 / OCCURRENCE CODE: 0 1 REPORT TYPE: T — REVISION NO.: 0

ACTION TAKEN: B ⑱ FUTURE ACTION: Z ⑲ EFFECT ON PLANT: C ⑳ SHUTDOWN METHOD: Z ㉑ HOURS ㉒: 0 0 0 2 ATTACHMENT SUBMITTED: C ㉓ NPRD-4 FORM SUB.: Y ㉔ PRIME COMP. SUPPLIER: N ㉕ COMPONENT MANUFACTURER: S 0 3 0 ㉖

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS ㉗

1 0 Visual inspection of the withdrawal line revealed pitting on the inside of the
1 1 line where it penetrated the CRD housing flange. The pitting had propagated
1 2 through the pipe wall allowing leakage from the pipe within the flange. The
1 3 exact cause is unknown, however, inspection results will be forwarded to the Operational Analysis Department for analysis as to possible causes. A fillet
1 4 weld around the withdrawal line, at the point of entry to the flange, was made. The weld was inspected and the CRD was returned to service.

1 5 FACILITY STATUS: G ㉘ % POWER: 0 0 0 ㉙ OTHER STATUS ㉚: Maint Outage METHOD OF DISCOVERY: C ㉛ DISCOVERY DESCRIPTION ㉜: Operator Observation

1 6 ACTIVITY RELEASED: Z ㉝ CONTENT OF RELEASE: Z ㉞ AMOUNT OF ACTIVITY ㉟: NA LOCATION OF RELEASE ㊱: NA

PERSONNEL EXPOSURES
1 7 NUMBER: 0 0 0 ㊲ TYPE: Z ㊳ DESCRIPTION ㊴: NA

PERSONNEL INJURIES
1 8 NUMBER: 0 0 0 ㊵ DESCRIPTION ㊶: NA

LOSS OF OR DAMAGE TO FACILITY ㊸
1 9 TYPE: Z ㊷ DESCRIPTION: NA

PUBLICITY
2 0 ISSUED: N ㊹ DESCRIPTION ㊺: NA NRC USE ONLY

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PDR ADOCK 05000265
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I. LER NUMBER: LER/RO 82-3/01T-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 February 23, 1982, a hydrostatic pressure test was performed on the Unit Two Reactor vessel and associated piping. The test was performed at 1000 psig nominal Reactor operating pressure in order to inspect the Reactor Clean-up System piping that had recently been repaired. During the test, the Operating Engineer discovered a leak from the Control Rod Drive (CRD) housing flange on CRD 42-07 (L-2). The leakage was observed to be approximately 0.25 gallons per minute. Further investigation revealed that the water was leaking from the CRD withdrawal line, 2-336A-3/4"A, in the portion of the line that is located within the CRD housing flange. A repair program was initiated to correct the problem.

VI. PROBABLE CONSEQUENCES OF THE OCCURRENCE:

The CRD withdrawal line routes water to and from the over-piston side of a control rod drive, thus, pressurizing the over-piston area during a withdrawal maneuver and venting the over-piston area during an insert maneuver. It also vents the over-piston water to the scram discharge volume during a Reactor scram. The line is normally isolated by means of a solenoid operated directional control valve and/or the scram outlet valve. Manual isolation can be achieved with a normally open manual isolation valve located outside the Primary Containment.

A complete failure of the withdrawal line integrity would cause the control rod to insert to its full in-core position. Leakage from a total failure would have been approximately 3 gpm, as determined by measuring the withdrawal stall flow. The stall flow was measured recently and indicates that amount of leakage past the stop and drive piston seals internal to the drive. This leakage would have been detected by way of increased Drywell sump pump integrated flow. Positive Primary Containment isolation could have been achieved by closing the manual isolation valve in that line. Thus, the scram function of the control rod drive was not inhibited, the Primary Containment integrity was not compromised, and the leakage observed was well within the 5 gpm unidentified leakage limit specified in Technical Specification 3.6.D.1.

VII. CAUSE:

After the control rod drive was removed, a visual inspection was performed on the CRD housing flange. Pitting was found on the inside diameter of the withdrawal pipe. The pipe extends into the housing flange and is fillet welded within the flange. Apparently, the pitting propagated through the wall of the pipe, allowing water to spray up between the pipe and the flange. The exact cause of the pitting is presently unknown, but a report on the inspection findings will be forwarded to the Operational Analysis Department for an evaluation as to possible modes of failure.

The pipe is 3/4 inch stainless steel, Schedule 80S, ASTM A312, Grade TP304, and was manufactured by the Sandvik Steel Company.

VIII. CORRECTIVE ACTION:

The leak was discovered while the Reactor was shutdown and all of the control rods were fully inserted. A fillet weld was made where the withdrawal line penetrates the top of the CRD housing flange. This repair was visually and liquid penetrant examined. In addition, visual inspections of the insert line on CRD 42-07, as well as the insert and withdrawal lines on the adjacent CRD (46-07), were performed. No signs of pitting were observed. Since the pitting in the withdrawal pipe of CRD 42-07 appears to be an isolated case, this corrective action has been deemed adequate.