

- I. LER NUMBER: LER/RO 82-19/03L-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 21, 1982, a Unit Two Suppression Chamber to Drywell vacuum breaker developed a problem which necessitated a unit shutdown. During the resulting short maintenance outage, it was requested to have the 2A Recirculation pump discharge valve, MO 2-202-5A, cycled. This valve had exhibited problems in opening and closing during the past. Early, on the morning of October 22, the valve was given a close signal and it would not go fully closed. The Low Pressure Coolant Injection (LPCI) System logic requires the Recirculation pump discharge valves to fully close on an initiation signal. Thus, LPCI was inoperable and the valve had to be repaired prior to Reactor startup as per Technical Specification 3.5.A.1. An inspection in the Drywell revealed the Limitorque Motor Operator had pulled the yoke away from the valve bonnet. Upon further investigation of the area, it was observed that two of the four 1-1/2 inch bolts, which hold the yoke to the bonnet, had fallen off, and that the valve stem was slightly bent.

VI. PROBABLE CONSEQUENCES OF THE OCCURRENCE:

Even though the "A" Recirculation pump discharge valve may not have closed during a LPCI initiation signal, the safety concerns were minimal. This was due to the fact that all other components of the LPCI mode of the Residual Heat Removal (RHR) System were operable. Also, both loops of the Core Spray subsystems, the Containment Cooling mode of RHR, and the Emergency Diesel Generators were available to mitigate the consequences of an accident as evaluated in the Final Safety Analysis Report. Therefore, this occurrence had no affect on safe plant operation.

VII. CAUSE:

The failure of the Recirculation pump discharge valve to close is attributed to the yoke becoming separated from the bonnet, thus causing excessive binding of the stem. The separation of the yoke and bonnet was possible because two of the four bolts which hold these parts together fell out, due to vibration.

VIII. CORRECTIVE ACTION:

After removal of the motor operator and yoke, it was decided that replacement of the stem would be necessary. However, since removal of the complete stem would be impossible without removing the Reactor head and installing jet pump plugs, it was decided to cut the bent portion of the stem off just below the threaded area and attach a new threaded stem of the same length. Station Nuclear Engineering and Nuclear Station Division-Maintenance Departments designed a proper weld configuration to accomplish the attachment of the two stems. This configuration ensured a sufficient amount of strength to bind the two stems together during operation of the valve.

Upon completion of the repairs, the valve was exercised to ensure proper movement and operation of the valve. When Unit Two operation reached 200 MWe, the valve was closed and eventually jogged to the full open position. No abnormalities were observed.

To prevent a similar instance on any other motor operated valves in the Drywell, all bonnet-to-yoke bolts were checked for proper tightness prior to startup.

During the next refuel outage, maintenance will be performed on these bolts such that a positive means of attachment will be accomplished. This may entail either a tack weld or a wire seal, as deemed appropriate.

This positive means of attachment will also be provided for the Unit One valves prior to startup from the present refuel outage.