

- I. LER NUMBER: LER/RO 83-07/03L-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:

At 12:55 p.m., on February 14, 1983, a Group II Isolation occurred when an Instrument Mechanic was investigating a problem in the ACAD-CAM High Rad Sensors on the 901-56 panel. With the RE 1-2419B High Rad Drywell Sensor removed, the Instrument Mechanic inadvertently caused the Group II Isolation by pulling out the RE 1-2419A High Rad Drywell Sensor.

At the 901-3 panel, the Operator noticed that the A0-1-1601-56, Torus Nitrogen Purge Valve, did not close. This condition was contrary to the requirements stated in Technical Specification 3.7.D.1. The A0-1-1601-21, Drywell Purge Valve, A0-1-1601-55, Nitrogen Purge Valve, and A0-1-1601-22, Torus/Drywell Vent Valve, were closed ensuring that Primary Containment integrity was maintained at all times satisfying Technical Specification 3.7.D.2.

An Operator was dispatched to investigate the problem. The valve still would not close. At 1:45 p.m., the same day, the valve closed by itself.

VI. PROBABLE CONSEQUENCES OF THE OCCURRENCE:

The A0-1-1601-56 valve is a Torus Nitrogen Purge Valve which is normally open when the unit is operating to provide a suction path from the Torus to the Drywell/Torus dP compressors. The inboard isolation valve, 1-1601-21, was closed at the time of the occurrence and remained closed until the 1601-56 valve was repaired. With the inboard isolation valve closed, Primary Containment integrity was maintained at all times. Thus, safe Reactor operation was not affected as a result of this event.

VII. CAUSE:

The cause of this occurrence has been designated as equipment failure. The reason for the valve not closing originally could not be determined. The solenoid valve was bench tested and inspected following removal. The valve operated properly and no unusual wear was found in the internals. The solenoid pilot valve is manufactured by Versa Products, Model VGS-4422-U-10-31.

VIII. CORRECTIVE ACTION:

The solenoid operated pilot valve was replaced like-for-like on the same day. The valve was subsequently cycled three times and the closure time was within Technical Specification limits. The valve is cycled at least once every three months to verify operability, which is sufficient to identify any abnormalities. To prevent future unexpected Group II Isolation from occurring, the 901-56 panel has been marked cautioning anyone from removing the I-2419A and B radiation monitors simultaneously.

There have been no previous failures of the A0-1-1601-56 valve or its associated solenoid pilot valve at Quad-Cities Station. There have been five prior failures of similar solenoid pilot valves. On four occasions the failures were due to rubber seal interferences in the solenoid cap, and in one instance, the solenoid coil failed.