

REPORT NUMBER: AO-50-265/75-1

REPORT DATE: 2-26-75

OCCURRENCE DATE: 12-30-74

FACILITY: Quad-Cities Nuclear Power Station
Cordova, Illinois 61242

IDENTIFICATION OF OCCURRENCE:

Excessive leakage through the high pressure coolant injection system (HPCI) steam exhaust check valve, 2-2301-45.

CONDITIONS PRIOR TO OCCURRENCE:

The Unit two reactor was in the cold shutdown condition for the current refueling outage. The HPCI system was out-of-service with HPCI turbine exhaust manual valve, 2-2301-74, closed.

DESCRIPTION OF OCCURRENCE:

While performing local leak rate tests on primary isolation valves it was determined that the HPCI steam exhaust check valve had a leak rate of 62.2 SCFH which is in excess of the 18.36 SCFH limit allowed by Technical Specification 4.7.A.2.i.(2)(b).

The leak rate test was performed by pressurizing the pipe volume between the valves 2-2301-45 & 74 to 48 psig through a 3/4-inch pressure test point.

A work request was issued and repairs were initiated.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:

Equipment Failure - the apparent cause of the excessive leakage through the check valve was leakage between the valve body seat ring and the disc.

ANALYSIS OF OCCURRENCE:

When operating under accident conditions the HPCI exhaust passes through check valve 2-2301-45 and manual valve 2-2301-74 and into the suppression chamber. In the event of a high suppression chamber pressure, manual valve 2-2301-74 could be closed to prevent back flow through the check valve to the HPCI turbine.

The backward leakage through check valve 2-2301-45 does not render the HPCI system inoperable, therefore, safe plant operation was not jeopardized. Since the HPCI room is not normally manned and is enclosed by secondary containment, no abnormal radiation exposures would be experienced by plant personnel and the public health and safety would not be affected.

CORRECTIVE ACTION:

The Maintenance Department disassembled the check valve and remachined the valve seats. On January 30, 1975, following the repair and replacement of the check valve, a local leak rate test was conducted and resulted in a measured leakage rate of 0.4 SCFH. This value is within the Technical Specification limit.

FAILURE DATA:

Check valve 2-2301-45 was not tested for leakage at any time between pre-operational testing and the current refueling outage. Therefore no previous leakage data exist for this valve.