

March 22, 1994

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PNO-IV-94-006B

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region IV staff on this date.

Facility

Nebraska Public Power District
Cooper 1
Brownsville, Nebraska
Dockets: 50-298

Licensee Emergency Classification

Notification of Unusual Event
Alert
Site Area Emergency
General Emergency
X Not Applicable

Subject: PLAN: SHUTDOWN (SECOND UPDATE)

On March 14, 1994, during monthly valve surveillance testing, the licensee discovered that RHR-MOV-MO27A, the outboard low pressure coolant injection isolation valve, failed its valve operability test because of excessive leakage past the valve seat. This valve is a containment isolation valve, and the licensee elected to shut down the plant and repair the valve. On March 16, 1994, at 7:45 p.m. the reactor was manually scrammed. All systems functioned as expected. The licensee expects the repairs to take 5-10 days.

The licensee provided a press release pertaining to the concerns and problems associated with Valve RHR-MOV-MO27A and the plant's shutdown to repair the valve.

On March 17, 1994, at 9:26 a.m. (CST), with the plant in cold shutdown, a loss of shutdown cooling occurred due to a spurious automatic closure of the shutdown cooling suction isolation valves and resulting pump trip. Shutdown cooling was restored 13 minutes later, during which time reactor temperature increased from 184 to 189 degrees F.

The licensee has formed a Problem Resolution Team to investigate the cause of this event. The NRC has initiated a special inspection.

The licensee's investigation revealed that the isolation had been caused by a pressure transient resulting from the formation and collapse of a steam volume in the RHR piping. This was confirmed by additional symptoms that accompanied the isolation, which were vibration in the RHR system (confirmed by recirculation pump instruments) and a momentary decrease (about 7 inches) of reactor water level.

The licensee discussed this event with General Electric (GE), the NSSS vendor. GE has indicated that several other BWRs in the industry have experienced similar events (e.g., Vermont Yankee and Fitzpatrick during 1993). GE quantified the steam volume at approximately 75 cubic feet, which was reflective of the observed 7-inch level decrease.

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During a conference call with RIV and NRR on March 22, 1994, the licensee described corrective actions to be taken prior to startup and planned long-term corrective actions. These actions included checking the calibration of pressure switches associated with shutdown cooling, rereviewing contingency planning to assure availability of protective systems for backup decay heat removal, revising the shutdown cooling procedure to assure stable shutdown conditions, and entering into further discussions with GE.

The licensee performed walkdowns of all potentially affected systems and found no indicated damage from the mild pressure transient (water hammer). The repairs to Valve RHR-MOV-M027A have been completed, and reactor startup is currently planned for the evening of March 22, 1994.

This information has been confirmed with a licensee representative.

Contact: J. E. GAGLIARDO
(817)860-8270