

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE--PNO-I-83-75

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 I staff on this date.

Facility: Pennsylvania Power & Light Co.
Salem Township, PA
Susquehanna, Unit 1
(DN 50-387)

Licensee Emergency Classification:
____ Notification of Unusual Event
____ Alert
____ Site Area Emergency
____ General Emergency
X Not Applicable

Subject: UNSCHEDULED SHUTDOWN DUE TO STEAM LINE RADIATION SPIKE

At 2:22 p.m., July 5, 1983, the reactor scrambled from about 95% power due to a main steam isolation valve (MSIV) closure caused by a steam line radiation spike. High pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) initiated on low reactor water level. HPCI tripped in 13-15 seconds on high reactor water level. RCIC tripped, apparently on overspeed. RCIC manual restart also resulted in another RCIC trip. Otherwise, post-scrum responses and conditions were normal. The resident inspector observed post-scrum activities in the control room.

Possible causes of the trip were evaluated by the licensee. A reactor water cleanup (RWCU) demineralizer had just been placed in service, and water chemistry (conductivity increase, no pH change) was felt to be consistent with a possible air injection transient. (A June 14, 1983 scram had been attributed to air injection when a condensate demineralizer was placed on line.) However, the licensee was unable to repeat the conductivity change by redoing an RWCU demineralizer cycle, and concluded that a momentary 50% increase in feedwater flow when shifting control channels for reactor water level probably introduced enough condensate demineralizer resin fines to cause the radiation spike. A water sample has been sent to Peach Bottom Atomic Power Station for a more accurate analysis and further assessment.

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The RCIC trips were re-evaluated and may be due to high reactor level, not overspeed. This aspect is still being pursued. Conservatism in steam line high radiation monitor setpoints and in HPCI and RCIC initiation setpoints are also being evaluated as contributors to the scram. Restart is planned on July 6 after resolution of these concerns to NRC satisfaction.

The licensee made a press release. NRC Region I will respond to media inquiries. The Commonwealth of Pennsylvania has been informed. This information is current as of 7:30 a.m., July 6, 1983.