

September 14, 1995

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PNO-I-95-035

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 Region I staff in King of Prussia, Pennsylvania on this date.

<u>Facility</u>	<u>Licensee Emergency Classification</u>
Peco Energy Company.	Notification of Unusual Event
Limerick 1	Alert
Philadelphia, Pennsylvania	Site Area Emergency
Dockets: 50-352	General Emergency
9509150184 950914	X Not Applicable
PDR I&E	
PNO-I-95-035 PDR	

Subject: MAIN STEAM SYSTEM SAFETY RELIEF VALVE FAILURE TO CLOSE LED TO PLANT SHUTDOWN AND DEPRESSURIZATION

On September 11, 1995, at 12:47 PM, with Unit 1 operating at 100% of rated power, main control room personnel received alarms and plant indications that the 'M' main steam system safety relief valve (SRV) was open. The operators immediately implemented the appropriate emergency operating procedures. Attempts to close the SRV were unsuccessful, and within two minutes the operators initiated a manual reactor scram as required by technical specifications. At 12:50 PM, the Shift Manager declared an Unusual Event (UE) due to a failure of an SRV to close. The operators closed the main steam isolation valves to reduce the depressurization rate of the reactor vessel. The SRV closed at 1:07 PM when reactor pressure had decreased to 410 psig. At this point, the cooldown rate was approximately 130 degrees F per hour, exceeding the technical specifications limit of 100 degrees F per hour. Suppression pool temperature reached a maximum of 124 degrees F during the event. Prior to the event, the 'A' loop of the residual heat removal (RHR) system was in service for routine suppression pool cooling. The 'B' loop of RHR was placed in service for suppression pool cooling immediately after the SRV opened. Approximately 30 minutes into the event, the operators observed indications of cavitation on the 'A' RHR pump and removed it from service, vented the pump, and returned it to service at a reduced flow rate. At 2:27 AM, on September 12, 1995, reactor pressure had been reduced to below 75 psig and one loop of shutdown cooling was placed in service. The UE was terminated at this time. At 4:30 AM, Unit 1 was in cold shutdown with a reactor coolant temperature of 194 degrees F. No unusual radiological conditions were noted during the event, and no unusual releases of radioactive material were detected.

The 'M' SRV was one of five known leaking SRVs this operating cycle, all of which are currently in the process of being replaced by the licensee. The SRVs are two stage Target Rock with vertical orientation. Limerick has a history of SRV leakage. The 'M' SRV has been sent offsite for testing, disassembly, and the performance of a root cause analysis of the failure mechanism. The licensee is reviewing the cavitation problem with the 'A' RHR pump and suspects an inadequate suction flow issue. A diver has performed an initial inspection of the suppression pool suction strainer for the pump and identified that the strainer was matted with a fibrous material covering 70 percent of the strainer. The licensee is continuing to review this issue and is planning to clean

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and inspect all suppression pool suction strainers, as well as the entire suppression pool. The licensee is also investigating the source of the fibrous material found in the suppression pool. The licensee is also performing an engineering evaluation to determine the effects of the excessive cooldown event on the reactor coolant system, as required by technical specifications.

An NRC special inspection is independently assessing operator performance during the event, management decision making, root cause analysis and corrective actions, and the licensee's analysis of the event. The PN is current as of 7:30 AM, September 14, 1995. (Reportable Event No. 29316) The State of Pennsylvania has been informed.

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