

PHILADELPHIA ELECTRIC COMPANY



PEACH BOTTOM ATOMIC POWER STATION

R.D. 1, Box 208

Delta, Pennsylvania 17314

(717) 456-7014

PEACH BOTTOM—THE POWER OF EXCELLENCE

D. B. Miller, Jr.
Vice President

February 25, 1993

Docket Nos. 50-277
50-278

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

SUBJECT: 1992 Annual Report on Safety Relief Valve Challenges at
Peach Bottom Atomic Power Station

Gentlemen:

The following describes safety relief challenges for Peach Bottom Atomic Power Station (PBAPS) as required by the TMI Action Plan, Item II.K.3, and by the PBAPS Technical Specification, paragraph 6.9.1.c. During 1992, there were three plant transients that resulted in 16 automatic actuations of the Main Steam Relief Valves in response to high reactor pressure. There were no automatic actuations of the Main Steam Safety Valves.

The following are brief technical descriptions describing the three transients involving automatic actuation of the Main Steam Relief Valves:

LER 2-92-12:

On 7/17/92, Unit 2 was in the RUN mode at 95% of rated thermal reactor power and Unit 3 was in the SHUTDOWN mode. At approximately 1850 hours, severe thunderstorms and lightning passed through the Peach Bottom area. At 1858 hours, the #3 startup feed was lost when its breaker (3435) tripped open. Loss of the #3 startup feed resulted in Unit 3 Primary Containment Isolation System (PCIS) Group II/III isolations during the 4 kV bus fast transfers.

At 1903 hours, a reactor scram occurred on Unit 2 when the Main Generator output breakers tripped open and caused a Main Generator power load unbalance trip signal. This trip signal occurred during a severe thunderstorm. PCIS Group II/III isolations occurred as expected due to the reactor water level dropping below 0" as a result of void collapse upon insertion of the control rods. At this time, both Unit 2 Electro Hydraulic Control (EHC) pumps tripped and caused a loss of the EHC system.

030040

9303030346 930225
PDR ADOCK 05000277
R PDR

AD44 1/0

Six Main Steam Relief Valves (MSRVs) lifted and the Alternate Pod Insertion (ARI) system actuated as reactor pressure increased (peak reactor pressure of approximately 1100 psig). Two MSRVs cycled two times, and four MSRVs cycled one time each. The Reactor Core Isolation Cooling (RCIC) system was used to control reactor level and pressure. Subsequently, reactor feed pumps were returned to service for level control. The NRC was notified of the event via ENS on 7/17/92 at 2230 hours. The scram actuation and PCIS Group II/III isolations were reset.

LER 2-92-15:

On 8/17/92, Unit 2 was in the RUN mode at 97% of rated thermal reactor power. At 0712 hours, during the application of a Substation Load Dispatcher permit on a Circuit Breaker (CB-205), a reactor scram occurred following a Main Generator Lock Out. CB-295 was being removed from service for maintenance activities. The event occurred when the Substation operator opened the "5014 Line Relay Block Switch" located on the Main Generator Output Breaker (CB-215) rather than "5014 Line Back Up Relay Block Switch" on CB-205. The combination of the relay block switch open on CB-215 and the breaker open on CB-205 simulated a CB-215 breaker failure. With the CB-215 breaker failure signal and the breaker not open, a CB-215 failure signal was sent to the other Main Generator Output Breaker (CB-225) and to the Main Generator Lock Out circuitry which tripped CB-215.

After the scram, PCIS Group II/III isolations occurred as expected due to the reactor water level dropping below 0" as a result of void collapse upon insertion of the control rods. Three MSRVs momentarily lifted, and the ARI system actuated as reactor pressure increased (peak reactor pressure of approximately 1100 psig). Three MSRVs cycled one time each. The NRC was notified of the event via ENS at 0850 hours. The scram actuation and PCIS Group II/III isolations were reset.

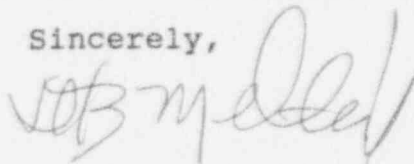
LER 3-92-08:

On 10/15/92 Unit 3 was in the RUN mode at 100% of rated thermal reactor power. At 2112 hours, an "A" channel half PCIS Group I isolation occurred after the performance of a Surveillance Test, "Calibration Check of Turbine First Stage Pressure Switch PS-3-05-14C." ST performance was immediately suspended until the

cause of the half isolation could be investigated. While Operations personnel were scanning the PCIS relays to determine the cause of the "A" channel isolation, the "B" channel PCIS Group I actuated at 2116 hours. This resulted in a full PCIS Group I actuation which closed the Main Steam Isolations Valves (MSIVs). When the MSIV limit switches indicated that the valves were not full open, a reactor scram occurred. PCIS Group II/III isolations occurred as expected due to reactor water level dropping below 0" as a result of void collapse upon insertion of the control rods. The High Pressure Coolant Injection (HPCI) system, RCIC system, and the ARI system initiated when reactor water level dropped below the -48" setpoint to -50". Three MSRVs lifted on high reactor pressure (peak reactor pressure of approximately 1105 psig). One MSRV cycled three times and two MSRVs cycled one time each. The HPCI and RCIC systems were used in the Condensate Storage Tank (CST) to CST mode in conjunction with manual MSRV operation to control reactor water level and pressure. AT 2125 hours, an Unusual Event was declared in accordance with the Emergency Plan due to the HPCI and RCIC injection to the reactor from a valid initiation signal. The PCIS and the Reactor Protection System (RPS) scram logics were reset by 2150 hours and the affected systems were restored to the appropriate configuration. The NRC was notified of the event via ENS at 2203 hours and the Unusual Event was terminated at 2300 hours.

If you have any questions regarding this matter, please call.

Sincerely,



J. M. Delle
DBM/DCT:ljp

cc: R.A. Burricelli, Public Service Electric & Gas
W.P. Dornis, Commonwealth of Pennsylvania
J.J. Lyash, USNRC Senior Resident Inspector
R.I. McLean, State of Maryland
T.T. Martin, Administrator, Region I, USNRC
H.C. Schwemm, Atlantic Electric
C.D. Schaefer, Delmarva Power
INPO Records Center