



PEACH BOTTOM—THE POWER OF EXCELLENCE

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION

R. D. 1, Box 208

Delta, Pennsylvania 17314

(717) 456-7014

May 28, 1991

Docket No. 50-277

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

SUBJECT: Licensee Event Report
Peach Bottom Atomic Power Station - Unit 2

This LER concerns Technical Specification 100 degrees F per hour heatup and cooldown rate violation due to failure to follow procedure.

Reference: Docket No. 50-277
Report Number: 2-91-010
Revision Number: 00
Event Date: 04/26/91
Report Date: 05/28/91
Facility: Peach Bottom Atomic Power Station
RD 1, Box 208, Delta, PA 17314

This LER is being submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(i).

Sincerely,

cc: J. J. Lyash, USNRC Senior Resident Inspector
T. T. Martin, USNRC, Region I

bcc: R. A. Burricelli, Public Service Electric & Gas
Commitment Coordinator
Correspondence Control Program
T. M. Gerusky, Commonwealth of Pennsylvania
INPO Records Center
R. I. McLean, State of Maryland
C. A. McNeill, Jr. - S26-1, PECO President and COO
D. B. Miller, Jr. - SMO-1, Vice President - PBAPS
Nuclear Records - PBAPS
H. C. Schwemm, VP - Atlantic Electric
J. Urban, Delmarva Power

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ABSTRACT is made up of 4000 spaces. It approximately contains single word type-key-ten lines (18)

On 4/26/91 while in single Recirculation (Recirc) loop operation, several attempts were made to heatup the idle Recirc loop which resulted in Technical Specification thermal heatup and cooldown rate violations. The cause of these events was that the idle Recirc loop warming procedure was not followed exactly. This event has been discussed with the individuals involved. The pertinent information from this LER will be issued to the appropriate personnel and incorporated into Licensed Operator Initial and Requalification Training. Additionally, the second Recirc pump start and the single loop operating procedures will be reviewed and revised as necessary to ensure that idle Recirc loop warming is only attempted under more easily controlled conditions. No actual safety consequences occurred as a result of these events.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/98

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Requirements for the Report

This report is being submitted to satisfy the requirements of 10 CFR 50.73(a)(2)(i)(B) because of a violation of the Technical Specification 100 degrees F per hour thermal heatup and cooldown limitations.

Unit Conditions at time of Discovery

Unit 2 was in the Run mode at approximately 34% of rated thermal reactor (EIIS:RPV) power. The 2A Recirculation (EIIS:AD) (Recirc) pump was running while the 2B Recirc pump was shutdown. There were no other systems, structures, or components that were inoperable that contributed to the event.

Description of Event

On 4/26/91 at 0040 hours, an attempt was made to warm the idle Recirc loop by bumping open the discharge valve (EIIS:V). After the discharge valve throttling was unsuccessful in increasing loop temperature, the operating RECIRC pump speed was increased. A procedural requirement to increase RECIRC pump speed only when the idle loop discharge valve is slightly open was inadvertently overlooked by the operations personnel (Utility, Licensed). The speed increase caused idle Recirc loop temperature to raise from 143 degrees F to 251 degrees F which was in excess of the Technical Specification thermal heatup rate. The operators responded by closing the discharge valve which caused a rapid cooldown. The operators tried to control the cooldown by throttling open the discharge valve, but the temperature again increased from 160 degrees F to 370 degrees F. In an effort to reduce the heatup rate by closing the discharge valve, the temperature immediately cooled down to as low as 235 degrees F and finally stabilized at 360 degrees F.

On 4/26/91 between 0915 and 1015 hours, the Technical Specification thermal heatup rate limit was exceeded again with a change of 101 degrees F in one hour. During the warm-up efforts accompanying this event the operators had been trying to warm-up the idle loop by slowly increasing speed of the operating pump while the idle loop discharge valve remained slightly throttled open. The operators noted that temperature control by this method was very difficult since very small pump speed changes caused relatively large deviations in loop temperature. During the event, the operators did not reduce pump speed or fully close the discharge valve as specified in the procedure when approaching the Tech Spec limit. These actions were not performed because the crew was concerned that an excessive cooldown violation would result.

Cause of the Event

The cause of these events was that the idle Recirc loop warming procedure was not followed exactly.

A review of these events indicates that idle Recirc loop warming is a very sensitive evolution and is difficult to control.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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Analysis of the Event

No actual safety consequences occurred as a result of these events. The effects have been accounted for in the accumulated component fatigue usage factor. General Electric has reviewed the events and concluded that considering these events in conjunction with past and future anticipated events, the affected components are still acceptable for the remainder of the licensed plant life.

Corrective Actions

This event has been discussed with the individuals involved. The pertinent information from this LER will be issued to the appropriate personnel. Licensed Operator Initial and Requalification Training will provide additional guidance regarding controlling heatup and cooldown rates.

The procedure used to start the second Recirc pump will be revised to ensure that idle Recirc loop warming will only be attempted under more easily controlled conditions. The single loop operating procedure will also be reviewed and revised as necessary to maintain these conditions if pump restart is planned.

Previous Similar Events

There were two previous LERs (2-83-003 and 3-84-002) caused by personnel error. The corrective actions associated with these LERs involved reemphasizing the importance of accurately monitoring heatup rate to operations personnel.

There were two additional LERs (3-90-009 and 2-90-036) caused by the lack of procedural guidance to maintain the Recirc pump discharge valve closed during reactor depressurization and when placing Shutdown Cooling in service. The corrective actions associated with these LERs involved procedure revisions to close the Recirc discharge valve when in these conditions.

Since the circumstances that led up to the events in this LER were unique, the corrective actions taken as a result of the previous occurrences would not have been expected to prevent this event.