



PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION

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PEACH BOTTOM—THE POWER OF EXCELLENCE

D. M. Smith
Vice President

April 2, 1990

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 a unit shutdown required to comply with a Technical Specification Limiting Condition for Operation.

Reference:	Docket No. 50-277
Report Number:	2-90-002
Revision Number:	00
Event Date:	03/02/90
Report Date:	04/02/90
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)(A).

Sincerely,

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

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Peach Bottom Atomic Power Station - Unit 2										DOCKET NUMBER (2) 0 5 0 0 0 2 7 7				PAGE (3) 1 OF 0 3		
TITLE (4) Completion of Shutdown Required to Comply with Technical Specifications with One Inoperable ADS Valve																
EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)						
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES				DOCKET NUMBER(S)			
0 3	0 2	9 0	9 0	0 0 2		0 0	0 4	0 2 9 0					0 5 0 0 0			
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)														
N		20.402(b)				20.405(e)				50.73(a)(2)(iv)				73.71(b)		
POWER LEVEL (10)		20.405(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)				73.71(e)		
0 0 0		20.405(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
		20.405(a)(1)(iii)				X 50.73(a)(2)(ii)				50.73(a)(2)(viii)(A)						
		20.405(a)(1)(iv)				50.73(a)(2)(iii)				50.73(a)(2)(viii)(B)						
		20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(ix)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME T. E. Cribbe, Regulatory Engineer										TELEPHONE NUMBER						
										AREA CODE						
										7 1 7 4 5 6 - 7 0 1 4						
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS						
X	S B	P S V	A 6 1 3	Y												
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On March 2, 1990 at 2132 hours a unit shutdown required by the Technical Specifications was completed. The shutdown was required pursuant to Technical Specification 3.5.E.2 which permitted the unit to operate until 2359 hours on March 3, 1990 with one inoperable Automatic Depressurization System (ADS) valve. Although the shutdown on March 3 was to begin a planned mid cycle outage, the repair of the inoperable "K" ADS valve required the reactor to be shutdown and the Drywell deintered to permit personnel access to the failed component. The root cause of this event was a component failure (solenoid coil open circuited) inside the drywell. The solenoid coil for the "K" ADS valve was replaced and the "K" ADS valve tested satisfactory. No actual safety consequences occurred as a result of this event. With only four operable ADS valves, substantial margin existed between the post accident calculated peak clad temperature and the 2200 degrees Fahrenheit limit. No previous similar LERs were identified.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1) Peach Bottom Atomic Power Station Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 2 7 7	LER NUMBER (6)			PAGE (3)	
		YEAR 9 0	SEQUENTIAL NUMBER 0 0 2	REVISION NUMBER 0 0		0 2 OF 0 3

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

Requirement for the Report

This Licensee Event Report (LER) is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(A) as a result of the completion of a plant shutdown required by the Technical Specification (TS). The plant was shutdown prior to the expiration of the allowable out of service time for one inoperable Automatic Depressurization System (ADS) valve (E1IS:RV). Repair of the inoperable component required a shutdown to permit personnel access to the drywell (DW).

Unit Status at Time of the Event

With the exception of the "K" ADS valve, there were no other structures, systems or components that were inoperable that contributed to the event.

Description of the Event

On March 2, 1990 at 1825 hours a unit shutdown was initiated for a planned mid cycle outage. At 2132 hours the reactor was manually scrammed in accordance with procedures from approximately 30 percent licensed thermal power (LTP). Although the shutdown on March 2 had been planned for a mid cycle outage, a shutdown would have been required no later than March 3, 1990 at 2359 hours as required by TS 3.5.E.2. As a result of surveillance testing, the "K" ADS valve was identified as inoperable on February 12, 1990. Subsequent to the identification of the inoperable ADS valve a one time extension of the applicable Limiting Condition for Operation (LCO) was granted by the NRC. This extension permitted continued operation until 2359 hours on March 3, 1990.

Cause of the Event

Prior to the shutdown, troubleshooting activities indicated that the cause of the condition was located inside the DW, thus requiring personnel access to the DW to identify the cause of the inoperability. Personnel access to the DW requires the reactor to be shutdown and the DW deinerted.

On March 4, 1990 the coil for the solenoid valve for the "K" ADS valve was determined to be open (i.e., no continuity) and was replaced.

The involved ADS solenoid valve is an Automatic Valve Corporation Model 6910-010:DC. This solenoid valve has qualified life of 5 years and is included in the plant preventative maintenance program. This program requires replacement every second refueling outage. The solenoid valve was last replaced on May 27, 1987.

The maintenance request form initiated to replace the solenoid coil provided for retaining the parts for failure analysis. However, after the solenoid coil was replaced, the failed coil was mistakenly discarded, preventing any additional failure analysis. Without additional failure analysis, the root cause of the component failure cannot be definitively determined and is considered to be unknown. The root cause of the event (unit shutdown) was a component failure (open circuit solenoid coil) for the "K" ADS valve inside the DW.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

Analysis of the Event

No actual safety consequence occurred as a result of this event.

The completion of the reactor shutdown was performed prior to the expiration date of the one time extension to the allowable out of service time permitted by the applicable LCO.

The ADS system operates in conjunction with the High Pressure Coolant Injection (HPCI) (EIIS:BJ) and low pressure systems (Core Spray (EIIS:BM) and Low Pressure Coolant Injection (EIIS:BO)) to provide post accident core cooling to prevent excessive fuel-clad temperature. An analysis was performed and provided to the NRC with the request for one time extension which indicated that with only four operable ADS valves, substantial margin existed between the post accident calculated peak clad temperature and the 2200 degrees Fahrenheit limit. Therefore, assuming single failure of HPCI or another ADS valve, the Core Standby Cooling Systems (CSCS) still would have provided adequate core cooling during a small or intermediate break Loss of Coolant Accident (LOCA). The ADS serves no accident mitigation function during a Large break LOCA. The inoperable "K" ADS valve did not adversely affect the function of the remaining ADS valves.

Corrective Actions

The HPCI subsystem and actuation logic for the operable ADS valves were tested as required by TS 4.5.E.2. The solenoid coil for the "K" ADS valve was replaced on March 4, 1990. The "K" ADS valve was tested satisfactorily on March 21, 1990. The defective coil was mistakenly discarded, preventing any analysis of the failed component.

Previous Similar Events

No previous LERs involving a unit shutdown required as a result of an inoperable ADS valve were identified.