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Unit Conditions Prior to the Event

Unit 3 is in Cold Shutdown

Description of the Event:

On October 26, 1987 at 1042 hours, a Philadelphia Electric Company maintenance craftsman opened the low side instrument drain valve (IDV-02-3-58BL) of reactor vessel level instrument LIS-3-02-3-058B which caused the draining of the variable leg side of the reactor vessel level instrumentation in the 3BC65B rack (Figure 1). Draining of the variable leg side resulted in the actuation of several level instruments (listed below). Two of the level instruments initiated a Group I isolation (LI-99 C&D).

The maintenance craftsman was attempting to drain reactor vessel level instrument LIS-3-02-3-058B (Figure 2) as a part of a plant modification to the reactor vessel level instrumentation. The modification, involving the removal of the level switch, was being performed under an approved maintenance request form (3-02B-M-8708033). A blocking permit was implemented as required by plant procedures. This permit established several blocking points for the removal of the level instrument.

The low side instrument drain valve (IDV-02-3-58BL) connects to the variable leg of the reactor water level instrumentation and was outside the blocking permit boundary designated in the blocking permit. The raintenance worker opened the instrument drain valve in an attempt to drain the level instrument.

The opening of this valve resulted in the draining of the variable leg header to the 3BC65B rack. The inadvertent draining of the variable leg header, which connects in parallel to several level instruments, was interpreted by the level instrumentation in the 3BC65B rack as a low reactor water level.

The maintenance craftsman failed to comply with the Philadelphia Electric Company "Rules for Permits and Blocking" in that the valve he opened was outside the blocking permit boundary.

The reactor water level instrumention affected by the simulated low reactor water level, the resulting indications, and the plant equipment effected are as follows:

NRC Form 366A (9-83)	LICE	NSEE EV	ENT REPOR	RT (LER) TEXT CONTINU	JATION	U.S. NUCLEAR APPROVI EXPIRES	REGULATORY COMMISSION ED OMB NO. 3150-0104 8/31/86
FACILITY NAME	1)	*******		DOCKET NUMBER (2)	LER NU	MBER (6)	PAGE (3)
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	INSTRUMENT	1	INDICATIO	NS	<u>P</u>	LANT EQU EFFECT	IPMENT ED
	LT-112B	(1)	Alarm a 30C04BX	t the Panel	(l) None	
	LT-72B&D	(1)	HPCI in in the	itiation signal Control Room	(l) None	
		(2)	RHR low signal	level initiation in the Control Ro	n (Dom	2) '3D' pump	HPSW tripped
		(3)	LO-LO-L level A timer i the Con	O reactor water DS bypass 9 minut nitiated alarm in trol Room	(n	3) None	
		(4)	RCIC in in the	itiation signal Control Room	(4) None	
		(5)	'2B' RH trip al Control	R pump arm in the Room	(5) '2B' pump	RHR tripped
	LT-110B	(1)	Level R on CO3	ecorder Panel	(l) None	
	LIS-58A&B	(1)	Recircu alarm i	lation pump trip n the Control Roo) mc	l) None	
	LI-99C&D	(1)	Group I alarm i Room	isolation n the Control	(l) None	
	The HPCI Sy	stem a	ind the R	CIC System did no	ot initia	te due t	o a low

The HPCI System and the RCIC System did not initiate due to a low steam supply pressure isolation which was in effect as a result of the shutdown condition. The drive motors of the recirculation pumps were blocked and not running thus the recirculation pump trip signal had no effect except for the Control Room indication.

As a result of the above indications in the Control Room, the operator manually tripped the Unit 3 '3D' RHR pump. Shutdown cooling of Units 2 and 3 was terminated by the tripping of Unit 3 '3D' RHR pump and Unit 2 '2B' RHR pump.

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U.S. NUCLEAR REGULATORY COMMISSION

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The Group I isolation valves had already been closed in conjunction with ongoing outage activities. Thus, no valve movement occurred.

Following initiation of the above identified plant equipment and alarms, the instrument drain valve (IDV-02-3-58BL) was closed and work was stopped to conduct an investigation. The variable leg was refilled and normal indication level was restored. The resulting alarms and indications were subsequently cleared. At 1045 hours, the Unit 2 '2B' RHR pump was returned to service. At 1100 hours, the Group I isolation signal was reset. At 1105 hours, the Unit 3 '3D' HPSW pump was returned to service. At 1110 hours the '3D' RHR pump was returned to service. The Shutdown Cooling System was out-of-service for 3 minutes on Unit 2 and for 28 minutes on Unit 3.

The EIIS codes are as follow: JM - Containment Isolation Control System LI - Level indicator V - Valve BO - RHR/Low Pressure Coolant Injection System P - Pumps KW - Services Water System

Consequences of the Event:

There were no adverse consequences of this event which would have affected plant safety. All level indicators and systems functioned correctly. The reactors have been in a shutdown condition since March 1987. If this event would have occurred during full power operation, the reactors would have safely shutdown as designed.

The Shutdown Cooling Mode was out-of-service for approximately 3 minutes on Unit 2 and 28 minutes for Unit 3. During this time, there was no observable change in reactor coolant temperature. If a significant increase in coolant temperature has occurred, alternate paths would have been established to remove the decay heat; therefore, plant safety was not adversely affected as a result of this event.

Cause of the Event:

The cause for the event was personnel error in that the maintenance craftsman did not comply with the Philadelphia Electric Company "Rules for Permits and Blocking" when he opened

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NRC Form 366A (9-83)	ICENSEE EVENT REPO	RT (LEF	R) T	EX	тс	ON	TINU	ITAL	01	N		U	S. NL	PPRO XPIRI	VED O ES 8/3	MB NO 3	Y CON	104
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the IDV-02-3-58BL valve which was outside the blocking permit boundary. The opening of this valve caused the draining of the variable leg side of the instrumentation in the 3BC65B rack and a subsequent Group I isolation signal.

Corrective Actions:

Following the initiation of the above identified plant equipment and alarms, the instrument drain valve (IDV-02-3-58BL) was closed and work was stopped to conduct an investigation. The variable leg was refilled and the normal level was restored. The resulting alarms and indication were subsequently restored. All plant functions were restored to normal by 1110 hours.

Actions Taken to Prevent Recurrence:

To prevent recurrence, the craftsman will be disciplined in accordance with the Philadelphia Electric Company disciplinary policy and will be reinstructed with regards to ensuring that the rules for permits and blocking are correctly followed. These actions will be completed by December 11, 1987.

Previous Similar Occurrences:

No previous LERs have occurred which involved the inadvertent opening of a reactor vessel level instrument drain valve which initiated other reactor level instrumentation resulting in a Group I isolation.

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-4000

December 28, 1987

Docket No. 50-278

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

SUBJECT: Licensee Event Report Peach Bottom Atomic Power Station - Unit 3

This revised LER concerns the opening of a reactor vessel level instrument drain valve during a plant modification which initiated other reactor level instrumentation and ultimately resulted in a Group I isolation signal. This revised LER is being submitted to correct a typographical error in the "Event Date (5)" on page A-1 which was originally submitted as October 28, 1987. The correct event date is October 26, 1987. This change is identified by a vertical bar in the margin.

Reference:	Docket No. 50-278
Report Number:	3-87-10
Revision Number:	01
Event Date:	October 26, 1987
Report Date:	December 28, 1987
Facility:	Peach Bottom Atomic Power Station
	RD 1, BOX 208, Delta, PA 17314

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

Very truly yours, M. Alken for

R. H. Logue Assistant to the Manager Nuclear Support Department

cc: W. T. Russell, Administrator, Region I, USNRC T. P. Johnson, NRC Resident Inspector