NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Beaver Valley Power Station Unit 1	0 5 0 0 0 3 3 4	1 OF 0 4

TITLE (4)

Two of Four ESF Actuation Channels Defeated Due to a Procedure Deficiency

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 3	8 8	8 8	0 0 4	0 0	0 4	0 4	8 8	N/A	0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 3 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	X 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
T.P. Noonan, Plant Manager	AREA CODE 4 1 2 6 4 3 - 1 2 5 8

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
D	B E	R L Y	W 1 2 0	Y							

SUPPLEMENTAL REPORT EXPECTED (14)

		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

At 0605 Hours on 3/3/88, it was discovered that two Containment Hi-Hi Pressure bistables, [BS-LM-100A2 and B2], were bypassed. After verifying that there was no valid reason for the bistables being blocked, they were returned to service at 0631 Hours. Further investigation discovered that the bistables had been bypassed on 2/22/88 due to a procedural problem. All four Containment Hi-Hi Pressure bistables had been placed in service on 2/21/88 as part of the Station Startup procedure. On 2/22/88, while the station was in Mode 5, bistables [BS-LM-100A2 and B2] were calibration checked. The surveillance procedure leaves the bistables bypassed while in Modes 5 or 6. The Containment Hi-Hi Pressure bistable surveillance procedures have been revised to leave the bistables in their "as found" position. During the investigation into this incident, it was discovered that there were no Control Room indication when either these bistables or the Refueling Water Storage Tank lo-lo level bistables were bypassed. Control Room indication of when these bistables are bypassed has been installed. There were no major safety implications due to this event. The other Containment Hi-Hi bistables were operable throughout this event and capable of initiating any automatic actuations required.

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

On 3/3/88, Maintenance personnel were preparing to perform the monthly check calibration of Containment Hi-Hi Pressure bistable [BS-LM-100A2]. However, upon opening the bistable's cabinet, they discovered the bistable was bypassed, blocking its output. The technicians immediately checked the status of the other three Containment Hi-Hi Pressure bistables. Bistable [BS-LM-100B2] was also found to be bypassed. The other two bistables were not bypassed and fully functional. At this time (0605 Hours), the Maintenance technicians notified the Nuclear Shift Supervisor (NSS) in the Control Room. An investigation was initiated to determine why these bistables were bypassed. After verifying that no valid reason existed for having these bistables bypassed, they were returned to service at 0631 Hours.

These Containment Hi-Hi Pressure bistables are used to initiate Containment Isolation Phase B (CIB) in the event of excessive Containment pressure. A CIB signal actuates Containment Spray and other ESF actuations designed to mitigate a Design Basis Accident or other High Energy Line Breaks inside Containment. These four bistables function on a two of four logic, such that if any two bistables sense a Hi-Hi Containment Pressure, a CIB will be initiated. These bistables are required to be operable in Modes 1, 2 and 3 only. In Modes 5 and 6, they are bypassed (defeated) to prevent spurious actuations of CIB.

Investigation determined that this event was due to a procedural problem. The bistables were inadvertently left bypassed during the following events:

In February 1988, the Station was coming out of its sixth Refueling Outage and preparing to return to Power Operation. By late February, the Station was in Mode 5 and preparing to enter Mode 4. As part of these preparations, all Technical Specification components required for Mode 4 were being verified OPERABLE.

On 2/21/88, Maintenance began surveillance checking the Containment Hi-Hi Pressure bistables in preparation for entry to Mode 4. The surveillance of bistables [BS-LM-100C2 and D2] was completed at 1730 Hours on 2/21/88.

On 2/21/88, Operations was working on Station Startup Checklist "A" (transition from Mode 5 to Mode 4). This checklist directed Operations to place the Containment Hi-Hi Pressure bistables in service. This was done at 1844 Hours on 2/21/88.

On 2/22/88, Maintenance continued with the surveillance of the Containment Hi-Hi Pressure bistables. The surveillance on bistables [BS-LM-100A2 and B2] was completed by 0124 Hours on 2/22/88. However, the surveillance procedure required that the bistables be left bypassed if the Station was in Mode 5 or 6 (bypass is the normal configuration to prevent inadvertent CIB, thus possibly losing RHR and/or cooling to RCP's for these bistables in these modes). Thus Maintenance technicians, as per their procedure, placed bistables [BS-LM-100A2 and B2] in bypass at this time.

The Station continued with its startup. At 0736 Hours on 2/24/88, the Station entered Mode 3. As detailed above, only two Containment Hi-Hi Pressure bistables were in service at this time. Both the Maintenance Surveillance Log and Operation Startup Checklist showed that all four bistables were operable.

The Containment Hi-Hi Pressure bistable surveillance procedures have been revised to prevent recurrence of this event. The procedures now require the Maintenance technicians to leave the bistables in their "as found" condition. If the bistables are found bypassed, the procedure requires the technicians to notify the NSS before leaving them in bypassed state. As an additional precautionary measure, on 3/3/88, the Station examined all its process bistables and verified they were in their normal (i.e., non-bypassed) state. A review of the Station Start-up procedures was also conducted to verify that all safety-related systems are placed in their normal arrangement for a given Mode prior to entering that Mode.

During investigation into this event, it was discovered that there was no Control Room indication of these bistables being bypassed per IEEE 279 Section 4.13. A review was initiated to determine any other safety-related functions could be bypassed without Control Room indication. This review determined that such indication existed for all safety-related functions with the exception of the Hi-Hi Containment Pressure bistables and the Refueling Water Storage Tank (RWST) Lo-Lo Level bistables. The Containment Pressure bistables originally had bypass indication in the Control Room, but this indication had been removed by the same design change that installed the RWST Lo-Lo Level bistable indication. The station has installed Control Room indication to alert the operator whenever any Containment Hi-Hi Pressure or RWST Lo-Lo Level bistable is bypassed.

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

There were no major safety implications due to this event. The other two Containment Hi-Hi Pressure bistables were operable throughout this event. As these bistables operate on a two out of four logic, the operable bistables could have initiated a CIB. Additionally, in the event of a Hi-Hi Containment Pressure without automatic actuation of CIB, Station procedures direct the operators to manually actuate CIB.

Duquesne Light

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April 4, 1988
ND3SPM:0201

Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
LER 88-004-00

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

In accordance with Appendix A, Beaver Valley Technical Specifications, the following Licensee Event Report is submitted:

LER 88-004-00, 10 CFR 50.73.a.2.vii, "Two of Four ESF Actuation Channels Defeated Due to a Procedural Deficiency".

Very truly yours,

T. P. Noonan
Plant Manager

tlu

Attachment

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