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ND3MNO:1983

Beaver Valley Power Station, Unit No. 2
Docket No. 50-412, License No. NPF-73
LER 89-014-01

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

Gentlemen:

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

LER 89-014-01, 10 CFR 50.73.a.2.iv, "Leak Collection Ventilation Flowpath Automatic Realignment Actuation".

T. P. Noonan
General Manager
Nuclear Operations

cj

Attachment

IE22
1/1

cc: Mr. William T. Russell
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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 2	0 5 0 0 0 4 1 2	1 OF 0 4

TITLE (4)
Leak Collection Ventilation Flowpath Automatic Realignment Actuation

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)
									N/A	0 5 0 0 0
0 5	0 6	8 9	8 9	0 1 4	0 1	1 0	3 1	8 9	N/A	0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)					
5		20.402(b)		20.405(c)	X	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(c)
0 0 0		20.405(a)(1)(ii)		50.36(c)(2)		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)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Thomas P. Noonan General Manager of Nuclear Operations	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	
X	E C	B K R	G 1 8 7	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)

On 5/6/89 at 0210 hours, the supply breaker to the J 480 Volt Essential Bus opened. The alternate J Bus Supply Breaker did not close. This de-energized the J Bus and all components powered off the J Bus, including Non-Filtered Ventilation Exhaust radiation monitor [2RMR-RQ301]. As designed, the monitor failed high when de-energized. This High Radiation signal initiated an automatic ventilation realignment, diverting the ventilation from the Non-Filtered to Filtered flowpath. Operators found no apparent cause for the breaker to trip. It was discovered that the reset button on the supply breaker was in the "out" position. Following an investigation the reset button was returned to its normal "in" position, and the supply breaker was closed. The J Bus including radiation monitor [2RMR-RQ301] was re-energized and the ventilation system was returned to its normal flowpath. After replacing with a tested spare, Maintenance sent the J Bus supply breaker to the vendor for analysis. The breaker was found to have a broken circuit run in the power shield which caused the spurious trip. All relays and circuits associated with the supply and alternate breakers were tested and verified operable. There were no safety implications due to this event. This event was bounded by Beaver Valley UFSAR Section 6.5.3.2, "Supplementary Leak Collection and Release System".

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Beaver Valley Power Station Unit 2	0 5 0 0 0 4 1 2	8 9	— 0 1 4	— 0 1	0 2 OF 0 4

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

Description of Event

On 5/6/89 at 0210 hours, the J 480 Volt Essential Bus Normal Supply Breaker [BKR 2J2B] opened. The J Bus alternate supply breaker (cross tie breaker from the K 480 Volt Essential Bus) did not close. This de-energized the J Bus and all its loads, including the Leak Collection Ventilation radiation monitor [2RMR-RQ301]. [2RMR-RQ301] monitors the Non-Filtered Ventilation Exhaust flowpath. When [2RMR-RQ301] was de-energized, it initiated a High Radiation signal, as designed. This signal automatically caused the Non-Filtered Ventilation flow to divert to the Filtered Ventilation Flowpath. This was done by automatically opening the Non-Filtered to Filtered flowpath supply dampers [2HVS*MOD202A&B], closing the Non-Filtered flowpath exhaust dampers [2HVS*MOD201A&B] and stopping the Non-Filtered flowpath exhaust fan [2HVS-FN263A]. Operators verified all automatic actions. The ventilation realignment was not immediately identified as an ESF Component Actuation. A later review determined that the event was an ESF Component Actuation and the NRC was notified on 5/8/89 at 1615 hours.

As designed, the alternate supply breaker should close following an undervoltage trip of the normal supply breaker and stay open following an overcurrent trip. Operators removed all loads supplied by the J Bus and performed an investigation. After finding no conditions which would have caused the breaker to trip an attempt was made to manually close the J Bus Supply Breaker; however, the breaker would not close. Operators then closed the alternate supply (tie) breaker. After the alternate breaker was closed it was noticed that the reset button on the J Bus Supply Breaker was in the "out" position. This is designed to occur when an overcurrent condition exists and is a mechanical interlock to prevent the breaker from being closed. Following the return of the reset button to its normal "in" position, the operators were able to close the supply breaker. The alternate breaker was then returned to its normal open position. The radiation monitor, the 480 VAC J Bus, and the ventilation system were returned to their normal arrangement.

Cause of Event

It has been concluded the event occurred due to a spurious trip of the J Bus Supply Breaker caused by a broken circuit run in the breaker's power shield. Following the event Maintenance removed the J Bus Supply Breaker, replaced it with a tested spare, and sent the breaker to the vendor for analysis. All relays associated with the supply and alternate supply breaker were calibrated and checked and all associated circuits were meggered, tested with an input current, and verified operable. Vendor testing of the breaker determined that the short time tripping function would intermittently trip above it's time curve, causing the breaker to trip erratically. The power shield was then sent to the vendor relay factory for analysis and repair. Inspection of the power shield revealed a broken circuit, near a resistor, which made intermittent contact. When contact was broken, the short time tripping function would activate and cause the breaker to trip. It is concluded that the broken circuit in the power shield caused the spurious trip of the breaker, and that the broken circuit run was most likely weak or damaged originally.

The alternate supply breaker stayed open as designed, as there was no supply undervoltage condition upstream of the J Bus Supply Breaker. The reset button on the supply breaker opened as a result of the faulty condition in the breaker. All relay and circuit tests verified that no overcurrent condition had existed in the bus and that no undervoltage condition existed upstream of the J Bus Supply Breaker.

Corrective Action

After the reset button on the J Bus Supply Breaker was returned to its normal "in" position, the breaker was closed and the alternate supply breaker was opened. The radiation monitor was reset and the ventilation system was realigned to its normal arrangement. An extensive investigation was conducted which included sending the supply breaker to the vendor for analysis. The breaker was found to have a defective circuit in the power shield which caused it to trip spuriously. All other components were verified to have functioned properly. Following the replacement of the supply breaker with a spare, no system abnormalities have occurred. Presently no further action is planned.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Beaver Valley Power Station Unit 2	0 5 0 0 0 4 1 2	8 9	— 0 1 4	— 0 1	0 4 OF 0 4

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

Previous Similar Events

There have been four previous events when the J Bus was de-energized, causing radiation monitor [2RMR-RQ301] to fail high resulting in similar ESF actuations. Three of the previous occurrences were initiated by other unrelated events as follows:

Personnel Error (LER 87-013-00)
Improper Clearance (LER 88-003-00)
Electrical Overload (LER 88-005-00)

The last occurrence (LER 89-007-00) was a similar event involving a spurious trip of the J Bus Supply Breaker.

Safety Evaluation

There were no safety concerns due to this event. The radiation monitor initiated a High Radiation signal when de-energized, as designed. The Non-Filtered Ventilation Flowpath was diverted to the Filtered Ventilation Flowpath in response to the High Radiation signal. The above actions were conservative and did not adversely affect any safety related systems. This event was bounded by Beaver Valley Unit 2 UFSAR Section 6.5.3.2., "Supplementary Leak Collection and Release System".