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March 12, 1993
ND3MNO:3426

Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, Licensee No. DPR-66
LER 93-002-00

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 93-002-00, 10 CFR 50.73.a.2.iv, "Engineered Safety Features Actuation - Inadvertent Tripping and Automatic Start of Reactor Plant River Water Pumps."

L. R. Freeland
General Manager
Nuclear Operations

JHK/sl

Attachment

160015

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NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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 3

TITLE (4)
Engineered Safety Features Actuation - Inadvertent Tripping and Automatic Starting of River Water Pumps

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 2	1 2	9 3	9 3	— 0 0 2	— 0 0	0 3	1 2	9 3	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 9 0	20.402(b)	20.405(c)	X 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)	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
	AREA CODE
L. R. Freeland, General Manager Nuclear Operations	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	
A	B S	X X X X	X X X X	N							

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 2/12/93, Unit 1 was in Mode 1 at 90% power. A non-licensed operator was discussing a breaker interlock for the swing river water pump, WR-P-1C, with a trainee. The swing pump has two supply breakers, one from each train of emergency power, and a mechanical interlock system to prevent both breakers from being connected onto their respective busses simultaneously. This prevents cross-connecting the emergency busses. The train A pump (WR-P-1A) was in standby, the train B pump (WR-P-1B) was in service, and the swing pump was not in service, with both breakers removed from the breaker cubicles. The operator opened the cubicle door for the Train B supply breaker to point out the interlock. At 0912 hours, he inadvertently bumped the cell switch arm in the breaker cubicle which is located adjacent to the interlock linkage, and generated a false signal that the swing pump was connected to the Train B emergency bus. The running river water pump is designed to trip if another river water pump breaker is connected to the same emergency bus to prevent overloading the emergency diesel generators. Since WR-P-1B was running, WR-P-1B tripped and WR-P-1A automatically started on low river water header pressure as designed. The cause of this event is due to personnel error. The individual has been counseled and this event will be presented in future retraining sessions.

Description of Event

On 2/12/93, Beaver Valley Unit 1 was in Mode 1 at 90% power. A non-licensed operator was discussing the mechanical breaker interlock for the swing reactor plant river water pump, WR-P-1C, with a non-licensed operator trainee. The swing pump has two supply breakers to allow the pump motor to be powered from either the trair A or train B emergency 4kV bus. A mechanical interlock system (Kirk Key) exists on the breakers to prevent both breakers from being connected onto their respective busses at the same time. This prevents the independent emergency busses from being cross tied through the swing pump breaker.

The train A river water pump (WR-P-1A) was racked on the emergency bus and was in standby, and the train B pump (WR-P-1B) was in service. The swing pump (WR-P-1C) was not in service with both of its breakers racked off the emergency busses and removed from the breaker cubicles. Since the swing pump breakers were removed, the non-licensed operator opened the cubicle door for the train B supply breaker to point out the interlock linkage.

At 0912 hours, while describing the interlock linkage, the non-licensed operator inadvertently bumped the cell switch linkage in the breaker cubicle which is located adjacent to the interlock. The cell switch contacts changed state, and generated a false signal that the swing pump was connected to the train B emergency bus. The running river water pump is designed to trip if another river water pump breaker is connected to the same emergency bus. This prevents having two river pumps operating on the same bus, which would overload the emergency diesel generators. Since WR-P-1B was running (and is always supplied from the train B emergency bus), WR-P-1B tripped and WR-P-1A automatically started on low river water header pressure as designed.

Operations personnel verified the automatic start of WR-P-1A, and also verified cooling water was not lost to any components. The A pump remained in service, and the B pump was aligned for an automatic start.

Cause of Event

The tripping of WR-P-1B and the automatic starting of WR-P-1A was due to personnel error. While a non-licensed operator was explaining a breaker interlock to a non-licensed operator trainee, he inadvertently bumped the cell switch linkage, which generated a false signal that two river water pumps were connected to the same emergency bus.

Corrective Actions

The following corrective actions have or will be taken as a result of this event:

1). Both operators were immediately counseled as a result of this event. The importance of being extremely careful when working and conducting training around plant equipment was stressed.

2). This event will be presented to all operating shifts at both Beaver Valley units. Situational awareness when working around and performing training on station equipment will be stressed.

3). This event will be discussed at a future retraining session for all licensed and non-licensed operations personnel.

Previous Similar Events

There are no previously submitted Licensee Event Reports concerning automatic starts of standby equipment due to inadvertent actuation of breaker cell switches.

Reportability

Since the reactor plant river water pumps are Engineered Safety Feature (ESF) components, this event is considered an ESF actuation. The Nuclear Regulatory Commission was notified via the Emergency Notification System at 1010 hours on 2/12/93, in accordance with 10 CFR 50.72.b.2.ii. This written report is being submitted in accordance with 10 CFR 50.73.a.2.iv.

Safety Analysis

There were no safety implications as a result of this event. The river water systems remained fully operational at all times. The running river water pump tripped as designed when the signal was generated that falsely indicated that two river water pumps were connected to the same emergency bus. The standby river water pump automatically started on low river water header pressure as designed.