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January 26, 1990
ND3MNO:2019

Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
LER 89-018-00

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 89-018-00, 10 CFR 50.73.a.2.iv, "Reactor Trip Due to Loss of Feeder Breaker Supplying Control Rod Drive Motor Generator Set".

Very truly yours,

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 1	0 5 0 0 0 3 3 4	1 OF 0 3

TITLE (4)

Reactor Trip Due to Loss of Feeder Breaker Supplying Control Rod Drive Motor Generator Set

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
1 2	2 7	8 9	8 9	0 1 8	0 0	0 1	2 6	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)			
1		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	0 2 9	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
Thomas P. Noonan, General Manager 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	A A	B K R	G 0 8 2	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 12/27/89, at 0001 hours, the Unit was in Power Operation (Operating Mode 1) at 29% power, following the initial startup from the refueling outage. The 1A Rod Drive Motor Generator (RDMG) set was in operation and the 1B RDMG set was out of service awaiting post maintenance testing. Outage maintenance activities on the 1B RDMG set included bearing replacement and breaker trip checks. A Caution Tag had been placed on the 1B RDMG set output breaker stating that trip checks were still required. At 0121 hours, a reactor trip occurred on Power Range High Negative Rate Flux Trip. The operators stabilized the plant in Hot Shutdown (Operating Mode 3) utilizing Emergency Operating Procedures E-0 and ES-0.1. The cause for the trip was due to a trip of the 480 Volt AC feeder breaker (1A5) to the 1A RDMG sets. Upon a loss of power to the 1A RDMG set, the control rods dropped into the core causing a negative rate reactor trip. Electrical Maintenance was requested to investigate the cause of the feeder breaker trip. There were no safety implications as a result of this event. The Updated Final Safety Analysis Report discusses similar events of this type in Section 14.1.3 "Rod Cluster Control Assembly Misalignment".

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

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

DESCRIPTION

On 12/27/89, at 0001 hours, the Unit was in Power Operation (Operating Mode 1) at 29% power, following the initial startup from the refueling outage. The 1A Rod Drive Motor Generator (RDMG) set was in operation and the 1B RDMG set was out of service awaiting post maintenance testing. Outage maintenance activities on the 1B RDMG set included bearing replacement and breaker trip checks. A Caution Tag had been placed on the 1B RDMG set output breaker stating that trip checks were still required. At 0121 hours, a reactor trip occurred on Power Range High Negative Rate Flux Trip. The operators stabilized the plant in Hot Shutdown (Operating Mode 3) utilizing Emergency Operating Procedures E-0 and ES-0.1.

CAUSE OF THE EVENT

The cause for the trip was due to a trip of the 480 Volt AC feeder breaker (1A5) to the 1A RDMG sets. Upon a loss of power to the 1A RDMG set, the control rods dropped into the core causing a negative rate reactor trip. Electrical Maintenance was requested to investigate the cause of the breaker trip. Electrical Maintenance conducted extensive testing on the 1A RDMG feeder breaker (1A5) to determine the cause of the breaker trip. The breaker trip setpoints were checked utilizing a preventive maintenance procedure and found to be satisfactory. The power sensor, which provides overcurrent protection by tripping the breaker on an overcurrent condition, was suspected to be faulty. This is being sent back to the vendor for testing and analysis.

CORRECTIVE ACTIONS

1. The operators stabilized the plant in Hot Shutdown (Operating Mode 3) utilizing Emergency Operating Procedures E-0 and ES-0.1.

2. Electrical Maintenance was requested to investigate and determine the cause for the breaker trip.

3. An installed spare breaker (3E9) was tested to verify proper power sensor (overcurrent trip check) operation and was found to be satisfactory. This installed spare (3E9) was swapped with the 1A RDMG set feeder breaker (1A5) to allow restart of the 1A RDMG set.

4. The power sensor for the failed breaker (1A5) will be sent to the vendor for testing and analysis.

5. The 1B RDMG set was returned to service.

SAFETY IMPLICATIONS

There were no safety implications as a result of this event. The Reactor Protection System functioned as designed upon a loss of power to the Control Rod Drive System. The Updated Final Safety Analysis Report discusses similar events of this type in Section 14.1.3 "Rod Cluster Control Assembly Misalignment". This section discusses a dropped rod cluster control assembly and a dropped rod cluster control assembly bank. It has been shown that the reactor is tripped by the power range negative neutron flux rate trip, consequently for the bank drop event and the dropped assembly event, there is no core damage.

PREVIOUS OCCURRENCES

There are three previous occurrences at Beaver Valley Unit 1, involving a reactor trip due to a loss of the Rod Drive Motor Generator sets. These three event were caused by a faulty BST Timer in the MG Controller Cabinet, an actuation of a faulty reverse power relay and actuation of a reverse power relay due to vibration following closure of the breaker enclosure door.