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April 13, 1994  
ND3MNO:3561

**Beaver Valley Power Station, Unit No. 2**  
**Docket No. 50-412, Licensee No. NPF-73**  
**LER 94-003-00**

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 94-003-00, 10 CFR 50.73.a.2.i.B, "Operation Prohibited By Technical Specifications - Inoperable Service Water System."

L. R. Freeland  
General Manager  
Nuclear Operations

STC/ke

Attachment

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cc: Mr. T. T. Martin, Regional Administrator  
United States Nuclear Regulatory Commission  
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**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNRB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20585-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Beaver Valley Power Station Unit 2

DOCKET NUMBER (2)

05000 4 1 2

PAGE (3)

1 OF 05

TITLE (4)

Operation Prohibited By Technical Specifications - Inoperable Service Water System

EVENT DATE (5)			LER NUMBER (6)			REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
03	14	94	94	003	00	04	13	94	N/A	05000
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	POWER LEVEL (10)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50. (Check one or more) (11)				
1	100	20.402(b)	20.405(a)(1)(i)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(ii)	20.405(a)(1)(iii)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(iv)	20.405(a)(1)(v)	50.36(c)(2)	50.73(a)(2)(vi)	OTHER
				50.73(a)(2)(i)	50.73(a)(2)(vii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)
				50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
				50.73(a)(2)(iii)	50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME

L. R. Freeland, General Manager Nuclear Operations

TELEPHONE NUMBER (Include 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 NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS
A	KE	XXXX	XXXX	N					

SUPPLEMENTAL REPORT EXPECTED (14)

YES

(If yes, complete EXPECTED SUBMISSION DATE)

X

NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On March 14, 1994, while returning the train A service water pump to service, Technical Specification 3.0.3. was inadvertently entered for under 1 hour. The cause of this event was an improper testing sequence that resulted in securing the only operable service pump (2SWS-P21B) prior to completing testing on the pump being returned to service (2SWS-P21A). There were no safety implications due to this event. Sufficient service water flow was maintained on both trains of the service water system. Test results finalized after the event proved that the involved pumps were operable. Because Technical Specification 3.0.3 was entered, this event is being reported in accordance with 10CFR50.73.a.2.i.B as a condition prohibited by Technical Specifications.

REQUIRED NUMBER OF DIGITS/CHARACTERS  
FOR EACH BLOCK

BLOCK NUMBER	NUMBER OF DIGITS/CHARACTERS	TITLE
1	UP TO 46	FACILITY NAME
2	8 TOTAL 3 IN ADDITION TO 05000	DOCKET NUMBER
3	VARIES	PAGE NUMBER
4	UP TO 76	TITLE
5	6 TOTAL 2 PER BLOCK	EVENT DATE
6	7 TOTAL 2 FOR YEAR 3 FOR SEQUENTIAL NUMBER 2 FOR REVISION NUMBER	LER NUMBER
7	6 TOTAL 2 PER BLOCK	REPORT DATE
8	UP TO 18 -- FACILITY NAME  8 TOTAL -- DOCKET NUMBER 3 IN ADDITION TO 05000	OTHER FACILITIES INVOLVED
9	1	OPERATING MODE
10	3	POWER LEVEL
11	1 CHECK BOX THAT APPLIES	REQUIREMENTS OF 10 CFR
12	UP TO 50 FOR NAME 14 FOR TELEPHONE	LICENSEE CONTACT
13	CAUSE VARIES 2 FOR SYSTEM 4 FOR COMPONENT 4 FOR MANUFACTURER NPRDS VARIES	EACH COMPONENT FAILURE
14	1 CHECK BOX THAT APPLIES	SUPPLEMENTAL REPORT EXPECTED
15	6 TOTAL 2 PER BLOCK	EXPECTED SUBMISSION DATE

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBR 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Beaver Valley Power Station Unit 2	05000 4 1 2	9 4	- 0 0 3 -	0 0	OF 02 05

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

DESCRIPTION OF EVENT

On March 14, 1994, Technical Specification testing was scheduled on the train A service water pump, 2SWS-P21A, to verify operability following an expansion joint replacement. In addition, the swing pump (capable of being powered from either a train A or a train B power supply) 2SWS-P21C was scheduled to be tested to meet IST requirements for pump discharge check valves and discharge Motor Operated Valve (MOV's). The two operable pumps required by Technical Specifications were 2SWS-P21B (supplying the B service water header being powered from train B) and 2SWS-P21C (supplying the A service water header being powered from train A).

At 0940 hrs, the motor breaker for 2SWS-P21A was racked in on the train A power supply. Due to breaker interlocks, this configuration would prevent the automatic start of 2SWS-P21C following a loss of normal power. Therefore, 2SWS-P21C was declared inoperable. As a result, only one service water pump, 2SWS-P21B was now operable. Technical Specification 3.7.4.1 action statement which required restoration of two operable pumps within 72 hours was invoked.

At 0953 hrs, 2SWS-P21A was started to verify operability on the train A service water header by performing Operations Surveillance Test (OST) 2.30.2, "Service Water Pump [2SWS-P21A] Test".

At 1046 hrs, the swing pump 2SWS-P21C, was shutdown, transferred to train B power, and started to verify operability on the train B service water header by performing OST 2.30.6, "Service Water Pump [2SWS-P21C] Test." Although 2SWS-P21C pump performance parameters were verified acceptable within Technical Specification 3.7.4.1 surveillance requirements, it could not be considered operable on this train because the automatic start feature on a Safety Injection Signal (train B) was not tested in accordance with Technical Specification Surveillance Requirement 4.3.2.1.1 Table 4.3-2 Item 1.b. This Safety Injection Start feature was scheduled to be tested following the pump performance test.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 90.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Beaver Valley Power Station Unit 2	05000 4 1 2	9 4	- 0 0 3 -	0 0	OF 03 05

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

At 1049 hrs, 2SWS-P21B was stopped and its control switch was placed in the "PULL-TO-LOCK" position as required by OST 2.30.6 to gather pump performance data (flow rate and pump head) with 2SWS-P21C solely supplying the B service water header. Since 2SWS-P21B was the only operable pump at this time and placing the pump in "PULL-TO-LOCK" disables automatic starts, the pump became inoperable. Technical Specification 3.0.3 should have been entered at this time but this was not recognized by the operating staff.

At 1139 hrs, after collecting the 2SWS-P21C performance data, 2SWS-P21B was restarted in preparation to test check valves associated with 2SWS-P21A and 2SWS-P21C operability. Upon 2SWS-P21B restart, a leak developed on its discharge vacuum break valve bonnet gasket. 2SWS-P21B was shutdown and placed in the standby mode at 1142 hrs. Because the pump automatic starts would now operate, Technical Specification 3.0.3 was no longer applicable.

Efforts to restore service water system operability were expedited as follows:

At 1150 hrs, Mechanical Maintenance was notified to replace the vacuum break valve bonnet gasket.

At 1222 hrs, the "B" standby service water pump (the backup pump designed to be used if the normal intake structure is disabled), was started to supply the B service water header to ensure sufficient reactor cooldown capability while 2SWS-P21C was being aligned on the A service water header. Because the piping associated with the B standby service water pump is not safety class, Technical Specification 3.0.3 was now applicable.

At 1227 hrs, 2SWS-P21C was started (using train A power supply) and valved into the A service water header.

At 1232 hrs, the power supply breaker for 2SWS-P21A was racked off the train A bus enabling automatic start of 2SWS-P21C. At this time, 2SWS-P21C was fully operable and Technical Specification 3.0.3 was no longer applicable.

At 1238 hrs, repairs on the 2SWS-P21B vacuum break valve were completed. 2SWS-P21B pump was started and the vacuum break valve was satisfactorily leak tested.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Beaver Valley Power Station Unit 2	05000 4 1 2	9 4	- 0 0 3 -	0 0	OF 04 05

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

At 1242 hrs, the "B" Standby Service Water Pump was shutdown and returned to its normal standby condition. Technical Specification 3.7.4.1 action statement no longer applicable.

The following day, March 15, the train B automatic Safety Injection start for 2SWS-P21C was proven operable by surveillance testing.

CAUSE OF EVENT

The cause of this event was failing to complete LER testing on 2SWS-P21A prior to commencing testing on 2SWS-P21C. Because 2SWS-P21A was not operable and the test procedure, OST 2.30.6 "Service Water Pump [2SWS-P21C] Test," for 2SWS-P21C (on the B service water header) required shutting down and placing the only operable service water pump (2SWS-P21B) in "Pull-To-Lock", entry into Technical Specification 3.0.3 occurred. The initial condition section of this procedure did not indicate that 2SWS-P21A and 2SWS-P21B are temporarily made inoperable. The test preparation section of the procedure did require that if either 2SWS-P21A or 2SWS-P21B is out of service then steps that shutdown these pumps be marked "not applicable". Because 2SWS-P21A was running (but not operable), these steps were performed. Therefore, the test procedure for 2SWS-P21A should have been completed prior to starting the test procedure for 2SWS-P21C.

CORRECTIVE ACTIONS

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

1. The test preparation section in OST 2.30.6, "Service Water Pump [2SWS-P21C] Test" will be clarified emphasizing that both 2SWS-P21A and 2SWS-P21B shall be operable prior to performing the valve testing portions of this test. Precautions will be included to alert operations staff that this procedure requires placing operable service water pumps in "Pull-To-Lock" rendering the affected pump temporarily inoperable.
2. All OST's on all "swing pumps" will be reviewed to determine if the above revision is required.
3. This event will be discussed with Operations personnel to prevent future occurrences.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (4)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Beaver Valley Power Station Unit 2	05000 4 1 2	9 4	- 0 0 3 -	0 0	05 OF 05

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

REPORTABILITY

Because Technical Specification 3.0.3 was applicable from 1049 hrs to 1139 hrs and 1222 hrs to 1232 hrs, this event is being reported in accordance with 10CFR50.73.a.2.i.B as a condition prohibited by Technical Specifications.

SAFETY IMPLICATIONS

There were minimal safety implications due to this event. Although the unit operated without any formally declared operable service water pumps for approximately 1 hour ( 1049 hrs to 1139 hrs and 1222 hrs to 1232 hrs), sufficient cooling capability was supplied throughout this event. At 1049 hrs, although Technical Specification 3.0.3 was applicable, cooling flow was being supplied to both service water headers by 2SWS-P21A (A header) and 2SWS-P21C (B header). Test results later confirmed that both these pumps were fully operable.

SIMILAR EVENTS

No similar events have been previously reported involving entry into Technical Specification 3.0.3 due to improper testing sequences.