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August 24, 1995  
ND3MNO:3701

***Beaver Valley Power Station, Unit No. 2  
Docket No. 50-412, Licensee No. NPF-73  
LER 95-004-00***

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

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

LER 95-004-00, 10 CFR 50.73.a.2.ii, "Technical Specification Violation Involving High Seal Injection Flow".

L. R. Freeland  
General Manager  
Nuclear Operations

JGT/tp

Attachment

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August 24, 1995

ND3MNO:3701

Page 2

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**LICENSEE EVENT REPORT (LER)**

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

ESTIMATED BUREN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-9091, 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)

05000412

PAGE (3)

1 OF 3

### Technical Specification Violation Involving High Seal Injection Flow

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 NAME	DOCKET NUMBER
07	25	95	95	-- 004 --	00	08	24	95	FACILITY NAME	DOCKET NUMBER 05000
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 20 CFR § (Check one or more) (11)							
1			20.402(b)			20.405(c)			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)	
100			20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii) OTHER	
			20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(viii)(A) (Specify in abstract below and in Text	
			20.405(a)(1)(iv)			X 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) NRC Form 366A)	

## LICENSEE CONTACT FOR THIS LER (12)

NAME \_\_\_\_\_

L. R. Freeland, General Manager Nuclear Operations

TELEPHONE NUMBER (include Area Code)

(412) 643-1258

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

[illegible]

## SUPPLEMENTAL REPORT EXPECTED (14)

YES (if yes, complete EXPECTED SUBMISSION DATE)	X	NO	SUBMISSION DATE (15)			
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ABSTRACT (limited to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On 7/25/95, a review of reactor coolant pump (RCP) seal injection flows identified a total seal injection flow greater than allowable by Technical Specifications (TS). This condition existed from 1256 hours on 7/23/95 until discovery on 7/25/95. On 7/23/95, shift operations personnel were preparing an equipment tagout for the 21B charging pump. The 21A charging pump was started and the 21C charging pump was placed into standby service using plant procedures. This alignment was completed at 1256 hours. Although referenced by the procedure, total seal injection flow was not verified to be in the acceptable range following the switch to a pump that produced slightly higher discharge head. (21C charging pump). TS 3.5.4, "Seal Injection Flow", requires RCP seal injection flow to be less than or equal to 28 gallons per minute (gpm). Total seal injection flow was discovered by testing to be 29.4 gpm on 7/25/95 at 1010 hours. The cause for this event was personnel error. Total seal injection flow was restored to within TS limits on 7/25/95 at 1101 hours. There were no safety implications as a result of this event. An analysis was performed which concluded that there would be no reduction of total design safety injection flow as a result of the increased seal injection flow, because the increased seal flow was a result of improved pump performance and not re-adjustment of system valves.

**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 (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Beaver Valley Power Station Unit 2	05000412	95	004	00	2 OF 3

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

**DESCRIPTION OF EVENT**

On 7/25/95, with Beaver Valley Unit 2 at 100 percent power, a review of reactor coolant pump seal injection flows identified a total seal injection flow greater than allowable by Technical Specifications. This condition existed from 1256 hours on 7/23/95 until discovery on 7/25/95. On 7/23/95 at 0930 hours, shift operations personnel were preparing an equipment tagout for the 21B charging pump. The 21A charging pump was started and the 21B charging pump was shutdown to facilitate the equipment tagout. The 21C charging pump was placed into standby service. This alignment was completed at 1256 hours. Total seal injection flow was not verified to be in the acceptable range following the switch to a slightly better performing pump (21C charging pump). Once the 21C charging pump was started and verified operating properly, the operators exited the procedure in use without ensuring the referenced surveillance procedure for seal injection flow was also completed. Technical Specification 3.5.4, "Seal Injection Flow", requires reactor coolant pump seal injection flow to be less than or equal to 28 gallons per minute (gpm). Total seal injection flow was discovered by testing to be 29.4 gpm on 7/25/95 at 1010 hours. A review of previous performances of the procedure used for starting and stopping charging pumps from January 1995 to this event identified additional instances where charging pumps were switched and the referenced surveillance for seal injection flow was not performed. One occurrence, on 3/22/95 involving a start of the 21A charging pump after securing the 21C charging pump on 3/19/95, identified that seal injection flow was greater than 28 gpm from 1100 hours on 3/22/95 until 0600 hours on 3/23/95.

**CAUSE OF THE EVENT**

The cause for this event was personnel error. The reactor operator was using an approved procedure as guidance to align the charging pumps for the electrical bus (diesel generator loading) considerations (21A charging pump on 2AE 4KV Bus and 21C charging pump on 2DF 4KV Bus). Upon start of the 21A charging pump, the operator noted that seal injection flow on all three reactor coolant pumps was approximately 9.0 gpm on each pump. The procedure was exited prior to the step requiring performance of the surveillance test to measure total seal injection flow.

**CORRECTIVE ACTIONS**

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

1. Total seal injection flow was restored to within Technical Specification limits on 7/25/95 at 1101 hours.
2. The procedure for placing a charging pump in service will be enhanced to require a signoff to ensure performance of the surveillance test to measure seal injection flow.
3. The involved individuals were counseled.
4. This event will be discussed in Licensed Retraining to ensure that operators are aware that total seal injection flow needs to be verified after re-aligning charging pumps.

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

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FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Beaver Valley Power Station Unit 2

05000412

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3 OF 3

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

**REPORTABILITY**

This event involved a technical specification violation and is reportable in accordance with 10CFR50.73.a.2.ii

**SAFETY IMPLICATIONS**

There were no safety implications as a result of this event. An analysis of the high seal injection flow was performed which concluded that there were no new or unreviewed safety consequences. Decreased resistance in the reactor coolant pump seal injection lines would allow more safety injection flow to be diverted away from the normal safety injection flowpath. This analysis concluded that there would be no decreased resistance through the reactor coolant pump seal injection lines because the seal injection throttle valves had not been re-adjusted. The increased seal flow capability was caused solely by a higher performing pump. All three charging pump individually meet the minimum performance requirements.

**PREVIOUS SIMILAR OCCURRENCES**

No previous similar events involved excessive reactor coolant pump seal injection flow have been reported over the previous three years.