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 NOONAN, T.P. Duquesne Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 90-007-00: on 900622, operation w/refueling cavity drain
 flanges installed.

W/9 ltr.

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NOTES: LPDR 2cys Transcripts. LPDR 2cys PDR Documents.
 Application for permit renewal filed.

05000412

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July 17, 1990
ND3MNO:3004

Beaver Valley Power Station, Unit No. 2
Docket No. 50-412, License No. NPF-73
LER 90-007-00

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 90-007-00, 10 CFR 50.73.a.2.ii, "Operation With Refueling Cavity Drain Flanges Installed".

Very truly yours,

T. P. Noonan
General Manager
Nuclear Operations

sl

Attachment

9007200181 900718
PDR ADOCK 05000412
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11

July 17, 1990

ND3MNO:3004

Page two

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Page three

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Beaver Valley Power Station Unit 2										DOCKET NUMBER (2) 0 5 0 0 0 4 1 2				PAGE (3) 1 OF 0 3	
TITLE (4) Operation with Refueling Cavity Drain Flanges Installed															
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 N/A				DOCKET NUMBER(S) 0 5 0 0 0		
0	6	2	2	9	0	9	0	0	0	7	1	8	9	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) 1 0 0		20.402(b)				20.405(c)				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 365A)	
		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 T.P. Noonan, General Manager Nuclear Operations										TELEPHONE NUMBER 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 NPDOS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS					
D	D	F	X	X	X	X	X	X	X	N					
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<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)										<input type="checkbox"/> NO		EXPECTED SUBMISSION DATE (15)			
												0 1 3 1 9 1			

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

During review of IE Notice 90-19, Potential Loss of Effective Volume for Containment Recirculation Spray at PWR Facilities, no documentation could be found verifying the removal of Unit 2's Refueling Cavity Transfer Canal drain flanges. The UFSAR assumes these flanges are removed during power operation to prevent the transfer canal from acting as a catch basin in the event of a containment spray actuation. On 6/22/90, a containment entry was performed to determine if the flanges were installed. The flanges were found to be installed and were immediately removed. The flanges were left installed due to a deficiency in the transfer canal draining procedure. This procedure has been revised to verify that the flanges are removed after the canal is drained. An engineering evaluation has been initiated to determine if the containment spray system is still operable while the flanges are installed. Preliminary results from this evaluation indicate that the spray system is fully operable while the flanges are installed. A supplemental report will be issued detailing the final results of this evaluation.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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 9 0	—	0 0 7	—	0 0	0 2	OF 0 3

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

Description of Event

IE Notice 90-19, Potential Loss of Effective Volume for Containment Recirculation Spray at PWR Facilities, discussed the potential for sections of a PWR's refueling cavity to act as a catch basin in the event of a containment spray actuation. By preventing some of the spray water from entering the containment sump, insufficient volume might be available for subsequent recirculation spray. Beaver Valley's Independent Safety Evaluation Group (ISEG) reviewed the concerns of this Notice against Beaver Valley's design to determine if such an event could occur. ISEG did identify that the refueling cavity transfer canal at Beaver Valley Unit 2 could act as a catch basin for a significant volume of water (approximately 24,800 gallons). However, the canal was provided with two drains in the original plant design. The drains were designed to be closed with blind flanges during refueling.

ISEG attempted to verify that the Refueling Cavity Transfer Canal drain flanges had been removed following Unit 2's first refueling outage... (completed in June 1989).. No documentation of flange removal could be located.

On June 22, 1990, the Operations group made a containment entry to determine if the flanges were still in place. The flanges were discovered to be in place. The flanges were immediately removed.

Cause of Event

This event was caused by a procedural deficiency. No procedure existed to remove the flanges following a refueling outage.

Corrective Actions

The transfer canal draining and the containment closeout procedures have both been revised to verify that the drain flanges are not left installed.

An engineering evaluation of the containment quench spray and recirculation spray system has been initiated to determine if the system remains operable while the transfer canal drain flanges are installed. Preliminary results of this evaluation indicate the systems are fully operable while the flanges are installed.

Previous Similar Events

Review of station records show no previous similar events.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
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Beaver Valley Power Station Unit 2	0 5 0 0 0 4 1 2 9 0 —	0 0 7 —	0 0	0 3	OF	0 3	

TEXT (If more space is required, use additional NRC Form 368A's) (17)

Safety Implications

The safety implications due to this event are currently being evaluated. Beaver Valley Unit 2 UFSAR assumes that the blind flanges on the refueling cavity transfer canal drains are open during operation to allow water from containment spray to reach the recirculation spray pump sump. The major concern with having this water available in the sump is to ensure sufficient available Net Positive Suction Head (NPSH) to the recirculation spray pumps. Using conservative methodology, the UFSAR shows that the available NPSH is greater than the required NPSH. This calculation is being reevaluated to determine if sufficient NPSH would be available when the transfer canal drains are blocked. Initial results of the engineering evaluation show that containment spray remains operable even if the transfer canal does not drain to the recirculation sump. A supplemental report will be issued detailing the final results of the evaluation.

During their review of IE Notice 90-19, the ISEG also considered the design for Beaver Valley Unit 1 against the concerns of the notice. Although in a different configuration, Unit 1 also has drain lines off its refueling cavity transfer canal. However, the NPSH design analysis for Unit 1's recirculation spray pumps assume that Unit 1's canal drains are closed and that the canal does act as a catch basin. Even without the water held in the transfer canal, Unit 1's recirculation spray pumps have sufficient NPSH to remain fully operable.