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SUBJECT: LER 90-011-00: on 900521, HPCS sys pump suction valve
 switchover actuation.

W/9 1ltr.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

Docket No. 50-397

June 19, 1990

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: NUCLEAR PLANT NO. 2
LICENSEE EVENT REPORT NO. 90-011

Dear Sir:

Transmitted herewith is Licensee Event Report No. 90-011 for the WNP-2 Plant. This report is submitted in response to the report requirements of 10CFR50.73 and discusses the items of reportability, corrective action taken, and action taken to preclude recurrence.

Very truly yours,



C. M. Powers (M/D 927M)
WNP-2 Plant Manager

CMP:lr

Enclosure:

Licensee Event Report No. 90-011

cc: Mr. John B. Martin, NRC - Region V
Mr. C. J. Bosted, NRC Site (M/D 901A)
INPO Records Center - Atlanta, GA
Ms. Dottie Sherman, ANI
Mr. D. L. Williams, BPA (M/D 399)

Cert No P085602257

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LICENSEE EVENT REPORT (LER)

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) Washington Nuclear Plant - Unit 2										DOCKET NUMBER (2) 0 5 0 0 0 3 9 7 1				PAGE (3) OF 0 5				
TITLE (4) High Pressure Core Spray (HPCS) System Pump Suction Valve Switchover Actuation - Cause Unknown																		
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	5	21	90	0	0	0	6	1	9	9	0	0 5 0 0 0						
OPERATING MODE (9) 5			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)															
POWER LEVEL (10) 0 0 0			20.402(b)				20.405(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)			
			20.405(a)(1)(i)				50.36(c)(1)				<input type="checkbox"/> 50.73(a)(2)(v)				73.71(c)			
			20.405(a)(1)(ii)				50.36(c)(2)				<input type="checkbox"/> 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)				<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
			20.405(a)(1)(iv)				50.73(a)(2)(ii)				<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
			20.405(a)(1)(v)				50.73(a)(2)(iii)				<input type="checkbox"/> 50.73(a)(2)(x)							
LICENSEE CONTACT FOR THIS LER (12)																		
NAME J. D. Arbuckle, Compliance Engineer										TELEPHONE NUMBER AREA CODE 510 937 7-1 2111 5								
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																		
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC								
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR		
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO						

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

On May 21, 1990 at 1525 hours, a High Pressure Core Spray (HPCS) System pump suction valve switchover actuation occurred during the annual Maintenance and Refueling Outage. Plant configuration at the time was such that HPCS suction was lined up to the Condensate Storage Tanks (the normal line-up, with HPCS-V-1 open), and the Suppression Pool Suction Valve (HPCS-V-15) was closed (reference Figure 1). The switchover actuation was the automatic closure of HPCS-V-1 and the opening of HPCS-V-15.

At the time of the suction valve transfer, Plant Control Room Operators received a suction switchover Suppression Pool high level annunciator, which immediately cleared before the Operators had a chance to reset. Although the switchover was unexpected, the closure of HPCS-V-1 and the opening of HPCS-V-15 was by Plant design. After verifying that no actual high Suppression Pool or low Condensate Storage Tank level condition existed, Plant Control Room Operators restored the system to the pre-event line-up (HPCS-V-15 was closed and HPCS-V-1 was re-opened), as an immediate corrective action at 1527 hours.

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 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) Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 9 7	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Abstract (contd.)

The cause of this event is indeterminate. A formal Root Cause Analysis was performed which failed to determine the reason for the HPCS suction valve transfer. As a further corrective action, the Condensate Storage Tank and Suppression Pool Water Level Monitors were successfully tested on June 3, 1990 and June 4, 1990, respectively.

This event posed no threat to the health and safety of either the public or Plant personnel.

Plant Conditions

Power Level - 0%
Plant Mode - 5 (Refueling)

Event Description

On May 21, 1990 at 1525 hours, a High Pressure Core Spray (HPCS) System pump suction valve switchover actuation occurred during the annual Maintenance and Refueling Outage. The cause of the switchover is indeterminate.

Plant configuration at the time was such that HPCS suction was lined up to the Condensate Storage Tanks (the normal line-up, with HPCS-V-1 open), and the Suppression Pool Suction Valve (HPCS-V-15) was closed (reference Figure 1). The switchover actuation was the automatic closure of HPCS-V-1 and the opening of HPCS-V-15.

At the time of the suction valve transfer, Plant Control Room Operators received a suction switchover Suppression Pool high level annunciator, which immediately cleared before the Operators had a chance to reset. Although the switchover was unexpected, the closure of HPCS-V-1 and the opening of HPCS-V-15 was by Plant design. The Control Room Supervisor dispatched an Equipment Operator to the locations of the Suppression Pool level switches; however, the Operator observed no person in the areas or any signs of ongoing work. Plant Control Room Operators also reviewed Condensate Storage Tank and Suppression Pool data, and found both levels to be within the acceptable band.

After verifying that no actual high Suppression Pool or low Condensate Storage Tank level condition existed, Plant Control Room Operators restored the system to the pre-event line-up at 1527 hours.

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 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) Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 9 1 7	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 0	0 7 1	0 0	0 3	OF	0 5

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

Immediate Corrective Action

Plant Control Room Operators realigned the HPCS suction from the Suppression Pool to the Condensate Storage Tanks (HPCS-V-15 was closed and HPCS-V-1 was re-opened).

Further Evaluation and Corrective ActionA. Further Evaluation

1. This event is reportable under 10CFR50.73(a)(2)(iv) as an event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature.
2. There were no structures, systems or components that were inoperable at the start of this event that contributed to the event.
3. The circuit operation is such that the HPCS suction switchover logic is designed to actuate based on either low Condensate Storage Tank or high Suppression Pool level. Once initiated, the logic opens Suppression Pool Suction Valve HPCS-V-15. When HPCS-V-15 is full open, design logic closes Condensate Storage Tank Suction Valve HPCS-V-1. There are four magnetically-activated float switches, and two pipe break detectors that can actuate the one-out-of-one logic. Two of these level switches (HPCS-LS-1A and HPCS-LS-1B) actuate on Condensate Storage Tank low level, and two of the switches (HPCS-LS-2A and HPCS-LS-2B) actuate on high Suppression Pool level. The pipe break detectors are designated as HPCS-LS-3A and HPCS-LS-3B.
4. The cause of this event is indeterminate. A formal Root Cause Analysis was performed and, based on a review of circuit drawings, ongoing surveillance activity and equipment information, there is no data to definitely explain the cause of this event.

B. Further Corrective Action

1. Plant Procedure (PPM) 7.4.3.3.1.58, "HPCS System Transfer on Condensate Storage Tank Low Level - CFT/CC," was successfully completed on June 3, 1990. This procedure is a monthly Channel Functional Test/Channel Calibration of Condensate Storage Tank Level Monitors HPCS-LS-1A and HPCS-LS-1B to demonstrate operability within the High Pressure Core Spray System.
2. Plant Procedure (PPM) 7.4.3.3.1.60, "HPCS High Suppression Pool Level Actuation - CFT/CC," was successfully completed on June 4, 1990. This procedure is a monthly Channel Functional Test/Channel Calibration of Suppression Pool Water Level Monitors HPCS-LS-2A and HPCS-LS-2B in the High Pressure Core Spray System.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATIONESTIMATED 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) Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 9 7	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

3. Plant Procedure (PPM) 10.27.23, "HPCS System Transfer on Condensate Storage Tank Low Level - CC/LFST," was successfully completed on June 19, 1990. This procedure is an 18-month Channel Calibration of Condensate Storage Tank Level Monitors (pipe break detectors) HPCS-LS-3A and HPCS-LS-3B in the High Pressure Core Spray System.

Safety Significance

There is no safety significance associated with this event. There was no actual Suppression Pool or Condensate Storage Tank level change and the event was limited to an apparent spurious transient. Furthermore, all systems operated as designed to cause the HPCS System pump suction valve switchover. Accordingly, this event posed no threat to the health and safety of either the public or plant personnel.

Similar Events

LER 90-003, "High Pressure Core Spray System Pump Suction Valve Switchover During Surveillance Testing due to Instrument Indicated Level Excursion."

EIIS InformationEIIS Reference

	System	Component
High Pressure Core Spray HPCS)	BG	---
HPCS-V-1	BG	V
HPCS-V-15	BG	V
Suppression Pool	NH	---
Condensate Storage Tank	KA	TK
HPCS-LS-1A	BG	LIS
HPCS-LS-1B	BG	LIS
HPCS-LS-2A	BG	LIS
HPCS-LS-2B	BG	LIS
HPCS-LS-3A	BG	MS
HPCS-LS-3B	BG	MS

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 300 HRS. FORWARD COMMENTS TO THE BUREAU OF THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-410) U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555. AND TO THE INFORMATION MANAGEMENT PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

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TEXT (If more space is required, use additional NRC Form 366A-1) (17)

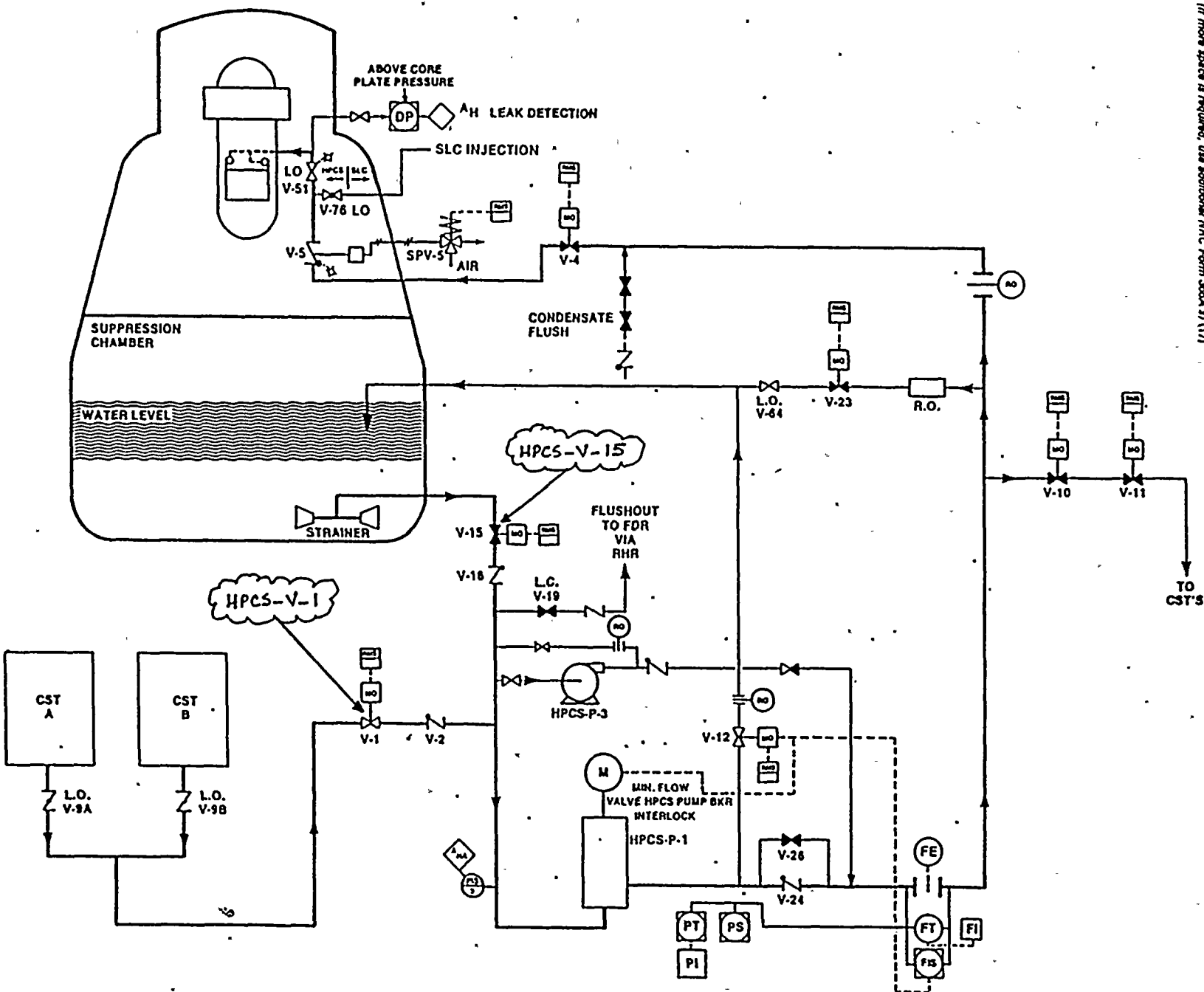


FIGURE 1. HPCS

