

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9107050214 DOC.DATE: 91/06/28 NOTARIZED: NO DOCKET #
 FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
 AUTH.NAME AUTHOR AFFILIATION
 ARBUCKLE,J.D. Washington Public Power Supply System
 BAKER,J.W. Washington Public Power Supply System
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-015-00:on 910602,high HPCS sys pump suction
 switchover from condensate storage tanks to suppression pool
 occurred.Caused by personnel error.Operator involved ack &
 reset alarm.W/910628 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR (ENCL 1 SIZE: 7
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

G02-91-125

Docket No. 50-397

June 28, 1991

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

Subject: NUCLEAR PLANT NO. 2
LICENSEE EVENT REPORT NO. 91-015

Dear Sir:

Transmitted herewith is Licensee Event Report No. 91-015 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,



J.W. Baker (M/D 927M)
WNP-2 Plant Manager

JWB:ac

Enclosure:

Licensee Event Report No. 91-015

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)

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PDR ADOCK 05000397
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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-630), 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) 1 OF 016	
TITLE (4) High Pressure Core Spray (HPCS) System Pump Suction Valve Switchover Actuation on High Suppression Pool Level due to Personnel Error																					
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)							
01	06	02	91	015	00	06	28	91						0 5 0 0 0							
OPERATING MODE (9) 4			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																		
POWER LEVEL (10) 0.00			20.402(b)				20.405(e)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)						
			20.405(a)(1)(i)				50.38(c)(1)				50.73(a)(2)(v)				73.71(c)						
			20.405(a)(1)(ii)				50.38(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)(ii)				50.73(a)(2)(viii)(A)										
			20.405(a)(1)(iv)				50.73(a)(2)(iii)				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 J. D. Arbuckle, Compliance Engineer										TELEPHONE NUMBER 5 01 9 31 71 7 -1 2 1115											
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 June 2, 1991 at 0106 hours while the Plant was shutdown for maintenance, a High Pressure Core Spray (HPCS) System pump suction switchover from the Condensate Storage Tanks to the Suppression Pool occurred due to a Suppression Pool high water level condition.

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

During the event period, Plant Control Room Operators were lowering Reactor Vessel level through the Residual Heat Removal (RHR) "A" Heat Exchanger Vents to the Suppression Pool following excess Flow Check (EFC) Valve testing. During this period the Suppression Pool high level alarm annunciator had sealed in [the alarm annunciates at +0.5 inches (0.5 inches above normal pool level)]. However, after acknowledging and resetting the alarm, a Plant Control Room Operator failed to take action to either lower Suppression Pool level or manually switchover the HPCS suction valves as directed by procedure. When Suppression Pool water volume reached approximately +3.0 inches indicated level, the automatic switchover occurred.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 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)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Washington Nuclear Plant - Unit 2	0 5 0 0 0 3 9 7	9 1	0 1 5	0 0	0 2	OF	0 6

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

Abstract (continued)

As an immediate corrective action Plant Control Room Operators took action to lower Suppression Pool level and then 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).

The cause of this event is personnel error in that the Plant Control Room Operator involved failed to follow procedures. Further corrective action consisted of counselling the Operator involved on procedural requirements and performance expectations, and including this LER for discussion during Licensed Operator Requalification Training.

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

Plant Conditions

Power Level - 0%

Plant Mode - 4 (Cold Shutdown)

Event Description

On June 2, 1991 at 0106 hours a High Pressure Core Spray (HPCS) System pump suction switchover from the Condensate Storage Tanks to the Suppression Pool occurred while the Plant was shutdown for maintenance. The switchover occurred as the result of a Suppression Pool high water level condition.

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

During the event period, Plant Control Room Operators were lowering Reactor Vessel level through the Residual Heat Removal (RHR) "A" Heat Exchanger Vents to the Suppression Pool following Excess Flow Check (EFC) Valve testing. During this period the Suppression Pool high level alarm (annunciator) sealed in [the alarm annunciates at + 0.5 inches (0.5 inches above normal pool level)]. Although the Plant Control Room Operator involved acknowledged and reset the alarm, he failed to take action to either lower Suppression Pool level, or manually switchover the HPCS suction valves as directed by procedure. When Suppression Pool water volume reached approximately +3.0 inches indicated level, the automatic transfer occurred. The Suppression Pool high level trip setpoint which would automatically cause a suction transfer is +5 inches. However, because the tolerance band (accuracy) for the level instrumentation is plus or minus two inches, the automatic transfer could occur as low as +3 inches or as high as +7 inches.

The closure of HPCS-V-1 and the opening of HPCS-V-15 was by Plant design and Plant Control Room Operators took appropriate action to lower Suppression Pool level.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 4/30/92

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)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Washington Nuclear Plant - Unit 2

0	5	0	0	0	3	9	7	9	1	—	0	1	5	—	0	0	0	3	OF	6
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TEXT (If more space is required, use additional NRC Form 365A's) (17)

Immediate Corrective Action

Plant Control Room Operators responded by taking action to lower Suppression Pool level and realigning 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 Action

A. 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 the event that contributed to the event.
3. The circuit operation is such that the HPCS switchover logic is designed to actuate based on either low Condensate Storage Tank or high Suppression Pool levels. 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. These valves are interlocked in this manner to prevent losing suction to pump HPCS-P-1. There are two magnetically-activated float switches (HPCS-LS-2A and HPCS-LS-2B) that actuate on high Suppression Pool level. Because of the one-out-of-one logic, either switch can initiate opening of the Suppression Pool suction valve.
4. The cause of this event is Personnel Error due to Lack of Attention/Concentration. The Plant Control Room Operator involved failed to take appropriate and timely action to lower the Suppression Pool as directed by procedure when level is greater than +0.5 inches. Plant Annunciator Response Procedures (PPMs) 4.601.A11 and 4.601.A12, "Annunciator Panel Alarms" for Suppression Pool Level, require that when level is greater than +0.5 inches, Plant Control Room Operators are to either lower Suppression Pool level by means of aligning the Residual Heat Removal (RHR) System to the radwaste system, or manually switchover the HPCS suction valves to preclude an inadvertent ESF actuation. As a result of a previous event (LER 90-014), the procedure also included the caution that an automatic HPCS suction valve transfer could occur as early as +3.0 inches due to instrument inaccuracy. The Plant Control Room Operator involved was aware of this procedural guidance. When Suppression Pool water volume reached approximately +3.0 inches indicated level, the automatic transfer occurred.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 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)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
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Washington Nuclear Plant-- Unit 2

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

B. Further Corrective Action

1. The Plant Control Room Operator involved was counselled on procedural requirements and performance expectations.
2. This LER will be included as a topic for discussion during the Licensed Operator Requalification Training Program.

Safety Significance

There is no safety significance associated with this event. All systems operated as designed to cause a HPCS System pump suction valve switchover on the high Suppression Pool water level condition. In addition, there are no Suppression Pool high level restrictions during Operational Mode 4 (Cold Shutdown) because there is insufficient energy in the reactor during this condition to place significant loads on the containment. Furthermore, Plant Control Room Operators responded by lowering the Suppression Pool and realigning the system to pre-event status. Accordingly, this event posed no threat to the health and safety of either the public or Plant personnel.

Similar Events

LER 90-014, "High Pressure Core Spray (HPCS) System Pump Suction Valve Switchover Actuation on High Suppression Pool Level due to Procedural Inadequacy."

EIIS Information

EIIS Reference

	<u>System</u>	<u>Component</u>
High Pressure Core Spray(HPCS) System	BG	---
HPCS-V-1	BG	V
HPCS-V-15	BG	V
Excess Flow Check (EFC) Valve	NH	V
Suppression Pool	NH	---
Condensate Storage Tank	KA	TK
HPCS-P-1	BG	P
HPCS-LIS-2A	BG	LIS

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 9 1 -	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		0 1 -	0 1 5 -	0 0	0 5	OF	0 6

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

EIIS Information

EIIS Reference

	<u>System</u>	<u>Component</u>
HPCS-LIS-2B	BG	LIS
Residual Heat Removal (RHR) System	BO	---
RHR "A" Heat Exchanger	BO	HX

LICENSEE EVALUATION REPORT (LER)
TEXT CONTINUATION

EXPIRES: 4/30/92

NOTED BURDEN PER RESPONSE TO COMPLY WITH THIS
INFORMATION COLLECTION REQUEST: 300 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)		DOCKET NUMBER (2)		LER NUMBER (6)		PAGE (3)	
Washington Nuclear Plant - Unit 2		05101013197911-010160F016		YEAR SEQUENTIAL NUMBER REVISION NUMBER			

TEXT (If more space is required, use additional NRC Form 366A (1-77))

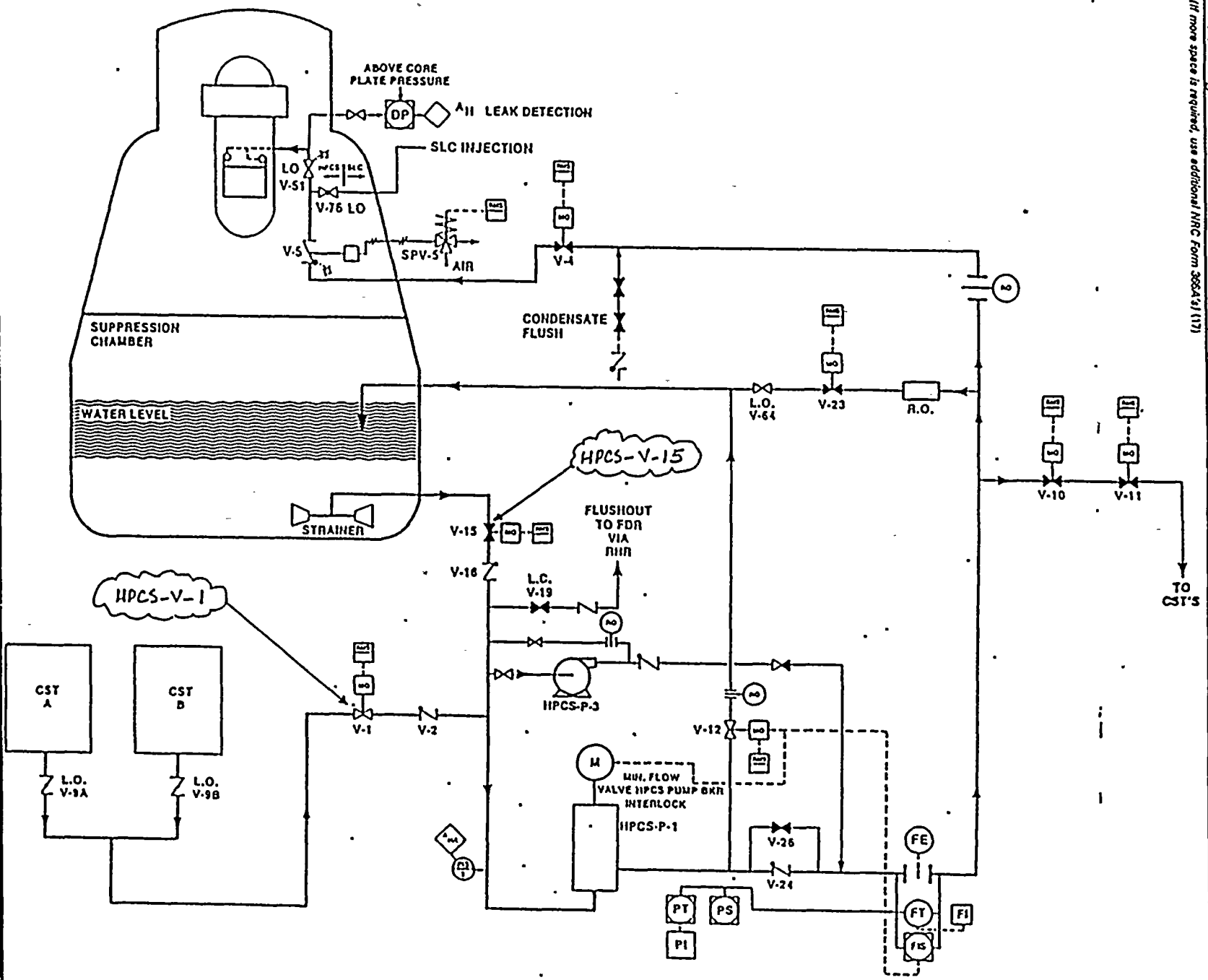


FIGURE 1. HPCS

