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REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9102140070 DOC.DATE: 91/02/07 NOTARIZED: NO DOCKET #
 FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
 AUTH.NAME AUTHOR AFFILIATION
 REIS,M.P. Washington Public Power Supply System
 BAKER,J.W. Washington Public Power Supply System
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-001-00:on 910108,RCIC turbine & equipment area temp
 alarms received & outboard isolation valve automatically
 closed.Caused by failure of electronic component re printed
 circuit input card.Circuit card replace.W/910207 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 4
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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	ENG,P.L.	1 1		
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	AEOD/DOA	1 1	AEOD/DSP/TPAB	1 1
	AEOD/ROAB/DSP	2 2	NRR/DET/ECMB 9H	1 1
	NRR/DET/EMEB 7E	1 1	NRR/DLPQ/LHFB11	1 1
	NRR/DLPQ/LPEB10	1 1	NRR/DOEA/OEAB	1 1
	NRR/DREP/PRPB11	2 2	NRR/DST/SELB 8D	1 1
	NRR/DST/SICB 7E	1 1	NRR/DST/SPLB8D1	1 1
	NRR/DST/SRXB 8E	1 1	REG FILE 02	1 1
	RES/DSIR/EIB	1 1	RGN5 FILE 01	1 1
EXTERNAL:	EG&G BRYCE,J.H	3 3	L ST LOBBY WARD	1 1
	NRC PDR	1 1	NSIC MAYS,G	1 1
	NSIC MURPHY,G.A	1 1	NUDOCS FULL TXT	1 1

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

Docket No. 50-397

February 7, 1991

G02-91-022

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

Subject: NUCLEAR PLANT NO. 2
LICENSEE EVENT REPORT NO. 91-001

Dear Sir:

Transmitted herewith is Licensee Event Report No. 91-001 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 for

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

JWB:lr

Enclosure:
Licensee Event Report No. 91-001

cc: Mr. John B. Martin, NRC - Region V
Mr. C. Sorensen, NRC Resident Inspector (M/D 901A)
INPO Records Center - Atlanta, GA
Mr. D. L. Williams, BPA (M/D 399)
NRC Resident Inspector - walk over copy

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PDR ADOCK 05000397
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11

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) 1 OF 0 3		
TITLE (4) RCIC-V-8 Automatic Closure ESF Actuation Due To Failed Electronic Component In Leak Detection System																
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 1	0 8	9 1	9 1	0 0 1	0 0	0 2	0 7	9 1					0 5 0 0 0			
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)														
1		20.402(b)				20.405(c)				X 50.73(a)(2)(iv)				73.71(b)		
POWER LEVEL (10)		1, 0, 0				20.406(a)(1)(i)				50.73(a)(2)(v)				73.71(c)		
		20.406(a)(1)(ii)				50.36(c)(1)				50.73(a)(2)(vii)				X OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
		20.406(a)(1)(iii)				50.36(c)(2)				50.73(a)(2)(viii)(A)						
		20.406(a)(1)(iv)				50.73(a)(2)(i)				50.73(a)(2)(viii)(B)						
		20.406(a)(1)(v)				50.73(a)(2)(ii)				50.73(a)(2)(ix)						
		20.406(a)(1)(vi)				50.73(a)(2)(iii)										
LICENSEE CONTACT FOR THIS LER (12)																
NAME M. P. Reis, Compliance Lead Engineer										TELEPHONE NUMBER 5 0 9 3 1 7 1 7 1 2 3 1 8 1 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						
X	I J	M O N	G O 8 0	Y												
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 fifteen single-space typewritten lines) (16)

At 0727 on January 8, 1991, alarms indicating high Reactor Core Isolation Cooling (RCIC) turbine and equipment area temperatures were received in the control room. Concurrently the outboard isolation valve for the RCIC turbine steam supply, RCIC-V-8, automatically closed. Redundant Control Room instrumentation and inspection of the RCIC locale showed no abnormal temperatures in the RCIC equipment areas. The cause of the isolation was traced to a failed component in the Leak Detection System, which provides input into the RCIC isolation logic.

Operations correctly entered the action statements for Technical Specifications 3.7.3 (RCIC operability) and 3.3.2 (Isolation Actuation Instruments) within one hour of the event. Operations reported the event to the NRC at 0850, since automatic closure of RCIC-V-8 is an ESF actuation, requiring a 4 hour notification (50.72 (b) (2) (ii)). The defective component was replaced and the Leak Detection and RCIC systems returned to service.

The apparent cause of this event was an isolated failure of a electronic component associated with one printed circuit input card in Leak Detection Monitor, LD-MON-1A. The root cause is indeterminate at this time. Vendor analysis of the failed component has been requested. This event presented no threat to plant personnel or to the public.

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)	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 0 1	0 0 0	12	OF 0 3

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

Plant Conditions

Power Level - 100%
Plant Mode - 1 (RUN)

Event Description

At 0727 on January 8, 1991, alarms indicating high Reactor Core Isolation Cooling (RCIC) turbine and equipment area temperatures were received in the control room. Concurrently the outboard isolation valve for the RCIC turbine steam supply, RCIC-V-8, automatically closed. Redundant Control Room instrumentation and inspection of the RCIC locale showed no abnormal temperatures in the RCIC equipment areas. The cause of the isolation was traced to a failed component on a printed circuit card in the Leak Detection System. The Leak Detection System provides input into the RCIC isolation logic.

The failure was of an electronic component located on one of six input cards within Leak Detection Monitor, LD-MON-1A. The function of this card is to accept thermocouple output signals and provide input to alarm and isolation logic within the monitor panel. An instantaneous failure within the panel will not normally cause an isolation, since the electronics can differentiate between internal failures and actual out of tolerance conditions. However it is believed that in this event the component failed slowly enough to simulate a high temperature condition and cause the alarm and isolation functions. Since 'A' train of the LD system is configured to isolate the outboard RCIC isolation valve on a one-out-of-one logic basis, the single failure within the card caused RCIC-V-8 to close. The card continued to fail to the point where the electronics recognized the internal failure and removed the isolation signal.

Immediate Corrective Action

The defective printed circuit card was replaced in LD-MON-1A and the Leak Detection and RCIC systems were returned to service at 2156 on the day of the event.

Further Evaluation and Corrective Action

A. Further Evaluation

Operations correctly entered the action statements for Technical Specifications 3.7.3 (RCIC operability) and 3.3.2 (Isolation Actuation Instruments) within one hour of the event. Operations reported the event to the NRC at 0850, since automatic closure of RCIC-V-8 is an ESF actuation, requiring a 4 hour notification, in accordance with 50.72 (b) (2) (ii). This LER is being submitted in compliance with 10CFR50.73 (a) (2) (iv).

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		
		9 1	0 0 1 1	0 0	13	OF 0 13

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

WNP-2 is the first nuclear plant to install this type of Leak Detection System. The system was installed in 1988. This is the first failure of this type at WNP-2. The manufacturer of the component is General Electric. The model number is 304A3714. The purchase part drawing for the card with the failed component is GE 213A9364G001.

The apparent cause of this event is an isolated failure of an electronic component on the input card. The root cause is indeterminate at this time. The failed card is to be sent to the vendor for further analysis.

There were no structures, systems or components inoperable at the start of the event which contributed to the event.

B. Further Corrective Action

The vendor's failure analysis report will be evaluated for any necessary additional corrective action(s). Based on the failure analysis report, the formal root cause analysis will be amended as necessary. If significant changes in the root cause are discovered or additional corrective actions warranted, a supplemental LER will be submitted.

Safety Significance

This event is of no safety significance and presented no threat to plant personnel or to the public. All equipment responded as expected for the given failure. No challenges requiring the RCIC function were experienced during this event.

At the time of the event, HPCS was operable and available to perform the high pressure injection function. The containment isolation function was preserved by RCIC-V-8 closure and the operability of the redundant inboard valve.

Similar Events

None

EIIS Information**Text Reference****EIIS Reference**

System	Component
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RCIC System
LD System
RCIC-V-8
LD-TE-4A
LD-MON-1A

BN	--
IJ	--
BN	V
IJ	TE
IJ	MON

