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 AUTH. NAME AUTHOR AFFILIATION
 FULLER, R.E. Washington Public Power Supply System
 BAKER, J.W. Washington Public Power Supply System
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-029-00: on 920624, RHR shutdown cooling isolation occurred & shutdown cooling supply line inboard isolation valve automatically closed. Caused by inadequate personnel work practices. Shutdown cooling reestablished. W/920717 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 6
 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

July 17, 1992
G02-92-170

Docket No. 50-397

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

**SUBJECT: NUCLEAR PLANT WNP-2, OPERATING LICENSE NPF-21
LICENSEE EVENT REPORT NO. 92-29**

Transmitted herewith is Licensee Event Report No. 92-29 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.

Sincerely,

JT Harold for

J. W. Baker
WNP-2 Plant Manager (Mail Drop 927M)

JWB/REF/cgeh
Enclosure

cc: Mr. J. B. Martin, NRC - Region V
Mr. C. Sorensen, NRC Resident Inspector (Mail Drop 901A, 2 Copies)
INPO Records Center - Atlanta, GA
Mr. D. L. Williams, BPA (Mail Drop 399)

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)

Washington Nuclear Plant - Unit 2

DOCKET NUMBER (2)

0 5 0 0 0 3 9 7

PAGE (3)

1 OF 5

TITLE (4)

SHUTDOWN COOLING ISOLATION DUE TO TRANSFER OF RPS "B" TO ALTERNATE POWER SUPPLY

EVENT DATE (5)

MONTH DAY YEAR
0 6 2 4 9 2

LER NUMBER (6)

YEAR SEQUENTIAL NUMBER REVISION NUMBER
9 2 0 2 9 0 0

REPORT DATE (7)

MONTH DAY YEAR
0 7 1 5 9 2

OTHER FACILITIES INVOLVED (8)

FACILITY NAMES

DOCKET NUMBERS (5)

0 5 0 0 0
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)

POWER LEVEL (10)

0 0 0

20.402(b)
20.405(a)(1)(i)
20.405(a)(1)(ii)
20.405(a)(1)(iii)
20.405(a)(1)(iv)
20.405(a)(1)(v)

20.405(C)
50.36(c)(1)
50.36(c)(2)
50.73(a)(2)(i)
50.73(a)(2)(ii)
50.73(a)(2)(iii)

X 50.73(a)(2)(iv)
50.73(a)(2)(v)
50.73(a)(2)(vii)
50.73(a)(2)(viii)(A)
50.73(a)(2)(viii)(B)
50.73(a)(2)(x)

77.71(b)
73.73(c)
OTHER (Specify in Abstract below and in Text, NRC Form 366A)

LICENSEE CONTACT FOR THIS LER (12)

NAME

R. E. Fuller, Compliance Engineer

TELEPHONE NUMBER

AREA CODE

5 0 9 3 7 7 - 4 1 4 8

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

YES (If yes, complete EXPECTED SUBMISSION DATE) X NO

ABSTRACT (16)

On June 24, 1992, at 0439 hours, a Residual Heat Removal (RHR) Shutdown Cooling (SDC) isolation occurred. The RHR SDC supply line inboard isolation valve, RHR-V-9, automatically closed while Operations was manually transferring the Reactor Protection System (RPS) Bus "B" from its normal power source to its alternate source. The power transfer was being done in preparation to do work on the RPS Bus "B" Electrical Protection Assemblies (EPA).

The root cause of this event is inadequate personnel work practices.

Plant Operators responded by restoring RHR SDC to pre-event lineup status.

The safety significance of this event is negligible. The increase in Reactor coolant temperature was less than 1°F. This event posed no threat to the operability of safety-related equipment or to the health and safety of Plant personnel or the public.

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TITLE (4) SHUTDOWN COOLING ISOLATION DUE TO TRANSFER OF RPS "B" TO ALTERNATE POWER SUPPLY									

Plant Conditions

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

Event Description

On June 24, 1992, at 0439 hours, a Residual Heat Removal (RHR) Shutdown Cooling (SDC) isolation occurred. The RHR SDC supply line inboard isolation valve, RHR-V-9, automatically closed while Operations was manually transferring the Reactor Protection System (RPS) Bus "B" from its normal power source to its alternate source. The power transfer was being done in preparation to do work on the RPS Bus "B" Electrical Protection Assemblies (EPA).

The transfer operation causes a momentary loss of power to the respective bus. The loss of RPS Bus "B" power causes, among other actuations, closure of selected inboard and outboard Nuclear Steam Supply Shutoff System (NSSSS) isolation valves, which includes, RHR-V-8, RHR-V-9 and RHR-V-53B. Inboard SDC supply line isolation valve RHR-V-9 and SDC return line valve RHR-V-53B closed as designed. The outboard SDC supply line isolation valve RHR-V-8 did not close as designed because maintenance activities being performed at the time precluded actuation.

Immediate Corrective Action

The Reactor Operators rapidly re-established RHR SDC within four minutes of the isolation per Plant procedures. There was no other impact to Plant operations.

Further Evaluation and Corrective Action

A. Further Evaluation

1. This event is considered reportable per 10CFR50.73(a)(2)(iv) as any event that resulted in automatic actuation of any ESF, including the RPS. NSSSS is an ESF. The loss of power to the RPS Bus "B" caused actuation of the associated division of NSSSS logic and corresponding closure of the open SDC supply line valve RHR-V-9 and SDC return line valve RHR-V-53B.

The control circuit for RHR-V-8 is powered by RPS Bus "A". The contacts for NSSSS manual isolation of RHR-V-8 are on Relay K81B. Relay K81B is powered from RPS Bus "B." Upon loss of power to RPS Bus "B", the NSSSS contacts to RHR-V-8, #3 and #4 contacts on K81B relay, open causing RHR-V-8 to close. However, RHR-V-8 did not close during this event because ongoing maintenance activities on RPS Division "B" had the RHR-V-8 NSSSS contacts jumpered to preclude such an actuation. RPS Bus "A" had power during this event. All other Plant systems responded as designed.

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The NRC was verbally notified of the unplanned ESF actuation at 0511 PST on June 24, 1992, per 10CFR50.72(b)(2)(ii).

2. Emergent maintenance work was identified for the RPS Bus "B" EPA breakers (RPS-EPA-3B and RPS-EPA-3D). Through some miscommunication in the Work Control Group (WCG), the EPA breaker work package was submitted to the Shift Manager without WCG preapproval. The WCG provides a review of the maintenance activities to assist the Shift Manager in assessing the impact of implementation on Plant operation. The package was provided to the Control Room with the intent of being worked in parallel with the scheduled RPS Division "B" work. However, the package did not have any cautions that normally accompany WCG preapproval.

In order to perform the EPA breaker work, the RPS Bus "B" power supply was required to be transferred from its normal supply, Bus SM-8, to its alternate supply, Bus SH-6. This transfer results in a momentary interruption of power to the loads until the transfer is completed at the switch. An unplanned ESF actuation from an RPS power transfer may be prevented while in SDC. The RHR pump that is being used for SDC is shutdown prior to the transfer and restarted upon completion of the transfer. Also, all other systems that normally actuate on loss of RPS power on the affected bus are aligned to their post-actuation state prior to the transfer. Therefore, no ESF actuations take place.

The Shift Manager accepted the work package because he determined it would have minimal impact on Plant operation. There were no cautions associated with the power transfer nor the affect the RPS Division "B" work would have on the EPA breaker work.

The scheduled RPS Division "B" work jumpered out the manual isolation push buttons for the inboard NSSSS isolation valves to prevent inadvertent actuation of this logic circuit. The Shift Manager and Control Room Supervisor (CRS) did not take adequate time to review the RPS Division "B" jumpers and EPA breaker work. They incorrectly assumed that the jumpers would prevent an interruption of power to RPS Bus "B" during a manual transfer of the power supply. Prior to the transfer, the Reactor Operators aligned all of the systems that would be affected by a loss of power to RPS Bus "B" to their post actuation state except for the RPS Channel "B" scram solenoid valves and the SDC system. Consequently, when the power transfer was made, the SDC isolation occurred as designed with closure of RHR-V-9 and RHR-V-53B.

The jumpers provided by the RPS Division "B" work were downstream of the RPS Bus. The power transfer evolution interrupts the power upstream of the RPS bus. Therefore, the jumpers in question would not preclude interruption of power to the bus.

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3. The root cause of this event is **Personnel - Work Practices - Other Intended or Required Verification Not Performed** to ensure the actions taken would cause the expected results. The Shift Manager and the CRS did not take adequate time to verify that the jumpers would prevent power interruption to the RPS bus during the transfer to the alternate power supply.
4. There were no other structures, components, or systems inoperable prior to the event which contributed to the event.

B. Corrective Action Taken

1. Management expectations have been communicated to the Shift Managers and all licensed Reactor Operator personnel to take the necessary time to adequately review Plant maintenance related documents for impact on Plant systems and components prior to allowing the job to be performed.

C. Further Corrective Action

No further corrective actions were identified.

Safety Significance

The safety significance of this event is negligible. The Reactor Operators restored SDC within four minutes of the isolation per Plant procedures. The increase in Reactor coolant temperature was less than 1°F. Furthermore, the Reactor Operators were aware of the possibility of the isolation and were prepared to respond to the occurrence. This event posed no threat to the operability of safety-related equipment or to the health and safety of Plant personnel or the public.

Similar Events

LER 89-23 documents ESF actuations that occurred during testing of the ATWS Recirculation Pump "A" Trip System while in Mode 5. Evaluations by the Plant Test Engineers and Plant Operators incorrectly concluded that other activities related to the recirculation pump could be performed in parallel with the test activities. This resulted in tripping the associated EPA breaker and caused the corresponding unplanned ESF actuations.

There have been other events leading to Shutdown Cooling isolation or inadvertent NSSSS actuations. However, the events were related to equipment malfunction or errors that occurred during maintenance activities.

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EIIS Information

Text Reference

Reactor Protection System
(RPS-EPA-3B and -3D)
Containment and Reactor Vessel
Isolation (RHR-V-9)
RHR/Containment Spray
Containment Leakage Control

EIIS Reference

<u>System</u>	<u>Component</u>
JC	BKR
JM	ISV
BO	
BD	