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 FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Power 05000397
 AUTH. NAME: FULLER, R.E. AUTHOR AFFILIATION: Washington Public Power Supply System
 BAKER, J.W. Washington Public Power Supply System
 RECIP. NAME: RECIPIENT AFFILIATION

SUBJECT: LER 92-012-00: on 920318, determined that removal of access plugs over RHR pump rooms A & B exposed both rooms to potential flooding from common source. Caused by faulty mgt methods. Interim guidance provided. W/920514 ltr.

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 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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May 14, 1992
G02-92-124

Docket No. 50-397

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U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

**SUBJECT: NUCLEAR PLANT WNP-2, OPERATING LICENSE NPF-21
LICENSEE EVENT REPORT NO. 92-12**

Transmitted herewith is Licensee Event Report No. 92-12 for the WNP-2 Plant. On April 16, 1992, we requested and received a 30 day extension from Mr. Phil Johnson, NRC Region V. 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,



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

Enclosure

cc: Mr. John 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 6

TITLE (4)

ACCESS PLUGS OVER BOTH RHR PUMP ROOMS "A" AND "B" NOT INSTALLED WHEN THE SYSTEMS WERE CONSIDERED OPERABLE

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 NUMBERS(S)			
0	3	1	8	9	2	9	2	--	0	1	2	0	0
0	3	1	8	9	2	9	2	--	0	1	2	0	0
0	3	1	8	9	2	9	2	--	0	1	2	0	0

OPERATING MODE (9) 2 THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR §: (Check one or more of the following) (11)

POWER LEVEL (10)	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(C)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 77.71(b)
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.73(c)
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
R. E. Fuller, Compliance Engineer	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)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)
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ABSTRACT (16)

On March 18, 1992, a Design Engineer determined that removal of the access plugs over the Residual Heat Removal (RHR) pump rooms "A" and "B" exposed both rooms to potential flooding from a common source. Hence, the equipment should have been considered inoperable while the plugs were removed.

The access plugs over the "A" and "B" RHR pump rooms had been removed during shutdown to support Plant modifications. Reactor startup had begun at 0415 hours on March 18, 1992. The access plugs were still removed over both pump rooms during startup. The access plugs were reinstalled over RHR pump rooms by 1100 hours on March 18, 1992. The NRC was verbally notified at 1643 hours PST on March 18, 1992, per 10CFR50.72(b)(2)(iii)(B) when it was concluded the condition was reportable.

The root cause of this condition is that management methods for job scoping did not identify the impact of removing the floor plugs on the operability of the associated safety-related equipment.

The corrective actions include identifying the barriers that, when opened or breached, affect the operability of safety-related equipment. Additional administrative controls will be provided to ensure barriers are in place when safety-related equipment is required to be operable.

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TITLE (4) ACCESS PLUGS OVER BOTH RHR PUMP ROOMS "A" AND "B" NOT INSTALLED WHEN THE SYSTEMS WERE CONSIDERED OPERABLE											

The safety significance of this condition is considered negligible. There was no condition that occurred during the time the access plugs were removed that challenged the operability of RHR "A" and "B." This condition posed no threat to the health and safety of Plant personnel or the public.

Plant Conditions

Power Level - 0%

Plant Mode - 2 (Startup)

Event Description

On March 18, 1992, a Design Engineer determined that removal of the access plugs over the Residual Heat Removal (RHR) pump rooms "A" and "B" could prevent the loops from performing their safety function. The access plugs provide equipment protection against certain design basis events such as flooding and missile generation. For this particular event, this condition exposed both rooms to potential flooding from a common source.

The RHR pump rooms "A" and "B" are adjacent to one another and are located on the west side of the Reactor Building. The "A" pump room is north of the "B" pump room. The access plugs to each room are located on the floor of the 471-foot elevation and are spaced approximately 40 feet apart. The pumps are located on the 422-foot elevation.

On March 17, 1992, prior to Reactor startup, the Shift Manager observed that the access plugs over the "A" and "B" RHR pump rooms were removed at the same time. The access plugs had been removed on February 26, 1992, to support the forced outage work.

Concerned over the significance of the uninstalled access plugs, the Shift Manager initiated a review of the Plant procedures and Licensing Basis Documents (LBD) for requirements related to the access plugs. A review by the Shift Technical Advisor (STA) revealed there were no specific documented requirements in the FSAR, Technical Specifications, NRC Correspondence, or Plant procedures for installation of the plugs. Reactor startup was allowed to proceed at 0415 hours on March 18, 1992.

At the start of business on March 18, 1992, the review continued for the specific access plug requirements. However, as a precautionary measure, the access plugs were reinstalled over RHR pump rooms "B" and "A" at 1025 hours and 1100 hours, respectively, on March 18, 1992.

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Further review by the Design Engineer determined that the safety analyses assumed the access plugs to be installed for the associated safety-related equipment to be operable. The plugs are designed to provide protection and mechanical separation against several postulated design basis events, which include internal flooding from failure of either moderate or high energy piping. At approximately 1600 hours on March 18, 1992, it was concluded that the condition was reportable as a potential failure of safety-related systems under design basis conditions.

Immediate Corrective Action

Since the plugs had been reinstalled, no further immediate corrective actions were required.

Further Evaluation and Corrective Action

A. Further Evaluation

1. This event is considered reportable per 10CFR50.73(a)(2)(v)(B) as a condition alone that could have prevented the fulfillment of the safety function of the RHR Shutdown Cooling System from removing residual heat while in Mode 4. Upon removal of the access plugs, the associated loops of RHR should have been considered inoperable. The NRC was verbally notified at 1643 hours PST on March 18, 1992, per 10CFR50.72(b)(2)(iii)(B).

While in Modes 1, 2 or 3, this condition had the potential for also affecting the safety function of the Suppression Pool Cooling capability for the Plant, two of the four low pressure ECCS systems, and Drywell (DW) and Wetwell (WW) Sprays. RHR "A" and "B" represent two loops of the Low Pressure Coolant Injection (LPCI) system, LPCI "A" and "B." LPCI, DW and WW Sprays, and Suppression Pool Cooling are different modes of operation of the RHR System.

2. There were no structures, components, or systems inoperable prior to the discovery of the condition which contributed to the condition.
3. Several postulated events in the Safety Analysis Report (SAR), e.g., internal flooding, missile generation and fires, assumed the access plugs to be in place for the associated RHR loop to be considered operable. Removal of the plugs over both rooms exposed both loops to potential flooding from a highly unlikely breach of moderate energy piping on the 471-foot Reactor Building elevation. Flooding could also occur during shutdown.

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4. The root cause of this condition is that **Management Methods for Job Scoping Did Not Identify Special Circumstances or Conditions**. Management did not consider the equipment inside the associated RHR room inoperable with the 471-foot floor plugs removed.

The practice of removing both of the plugs at the same time has been identified as occurring several times in the past. Plant personnel generally knew that the plugs provided fire protection. Fire impairment permits had been attached to the plugs. An hourly fire watch had been initiated as required. Personnel were generally unaware of the other protective functions of the plugs assumed in the design basis analysis.

The Plant was shutdown on February 25, 1992, because of the inoperability of the Containment Atmosphere Control (CAC) Hydrogen Recombiner System. Removal of the access plugs over the "A" and "B" RHR pump rooms was required to perform the necessary modifications of both divisions of CAC and RHR interface piping to regain system operability.

Based on a review of the Plant Technical Specifications and the administrative procedures for fire protection, the Work Control Group (WCG) Plant Operations Coordinator believed that the access plugs simply provided fire protection. Unaware of the mechanical separation provided by the access plugs, the WCG allowed CAC modification work in both RHR pump rooms to proceed simultaneously.

B. Corrective Action Taken

- Interim guidance on barrier impairments has been provided to Plant personnel. The guidance indicates that all safety-related equipment protected by the barrier that is being impaired should be considered inoperable unless evaluated to be otherwise.

C. Further Corrective Action

- By May 31, 1992, management expectations will be transmitted to all employees regarding evaluation of the impact of removing barriers, plugs, covers and hatches installed in the Plant on the operability of the associated systems.
- By September 30, 1992, administrative methods will be developed to track impairments to barriers, such as that provided for missile, fire and flooding protection.

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3. By June 30, 1992, the "Master Start Up Check List" and the "Minimum Start Up Check List" will be revised to verify that the 471-foot Reactor Building elevation floor plugs are installed prior to startup for the associated safety-related systems to be considered operable. Also, the above checklists will include a review of outstanding fire impairments to ensure the associated equipment operability requirements are satisfied prior to startup.
4. By September 30, 1992, the "Master Start Up Check List" and the "Minimum Start Up Check List" will be revised to include a review of outstanding barrier impairments to ensure the associated equipment operability requirements are satisfied prior to startup.
5. By June 30, 1992, the 471-foot Reactor Building elevation floor plugs will be labelled with appropriate instructions for removal.
6. By June 30, 1992, Plant Procedure PPM 1.16.6, "Scheduling and Coordination of Plant Work," will be revised to include summary guidance relative to operability of safety-related equipment that is protected by barriers, hatches and plugs.
7. By August 15, 1992, this LER will be incorporated into 10CFR50.59 training as a lessons learned from LBD implications not easily accessible for Safety Evaluation.

Safety Significance

The safety significance of this condition is considered negligible. There was no condition that occurred during the time the access plugs were removed that challenged the operability of RHR "A" and "B." This condition was insignificant because several low probability events must occur simultaneously, i.e., a moderate energy pipe break occurring in this area of the Reactor Building during the period of time the plugs were removed, a pipe break large enough to compromise both shutdown cooling loops, and failure of the Reactor Operator to secure the flow from the broken pipe before failure of both loops occurs. In addition, the Reactor decay heat was very low, which would allow Reactor Operators additional time to establish an alternate means of core cooling. This condition posed no threat to the health and safety of Plant personnel or the public.

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EIIS Information

Text Reference

Containment Atmosphere Control System
Fire Protection System
Low Pressure Core Spray System
High Pressure Core Spray System
Reactor Building
RHR/Containment Spray

EIIS Reference

System Component

BB
KP
BM
BG
NG
BO