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 AUTH. NAME AUTHOR AFFILIATION
 LEWIS, K.B. Washington Public Power Supply System
 PARRISH, J.V. Washington Public Power Supply System
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 94-019-00: on 941121, gasket missing from MCR air handler
 WMA-AH-51B precludes associated emergency fan WMA-FN-54B
 from sufficiently pressurizing CR. Caused by improper
 authorization. Manager counseled supervisor. W/941221 ltr.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

December 21, 1994
GO2-94-283

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. 94-019-00**

Transmitted herewith is Licensee Event Report No. 94-019-00 for the WNP-2 Plant. This report is submitted in response to the reporting requirements of 10CFR50.73 and discusses the items of reportability, corrective action taken, and action taken to preclude recurrence.

Should you have any questions or desire additional information, please call me or D.A. Swank at (509) 377-4563.

Sincerely,

J. V. Parrish (Mail Drop 1023)
Assistant Managing Director, Operations

JVP/KBL/la
Enclosure

cc: LJ Callan, NRC-RIV
KE Perkins, Jr., NRC-RIV, Walnut Creek Field Office
NS Reynolds, Winston & Strawn
NRC Sr. Resident Inspector (Mail Drop 927N, 2 Copies)
INPO Records Center - Atlanta, GA
DL 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 4

TITLE (4)

GASKET MISSING FROM MAIN CONTROL ROOM AIR HANDLER WMA-AH-51B PRECLUDES ASSOCIATED EMERGENCY FAN WMA-FN-54B FROM SUFFICIENTLY PRESSURIZING THE CONTROL ROOM

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)																			
1	1	2	1	9	4	9	4	--	0	1	9	--	0	1	9	1	2	2	1	9	4		0	5	0	0	0	1	1

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)

1	0	0	-	20.402(b)	-	20.405(C)	-	50.73(a)(2)(iv)	-	77.71(b)
			-	20.405(a)(1)(i)	-	50.36(c)(1)	-	50.73(a)(2)(v)	-	73.73(c)
			-	20.405(a)(1)(ii)	-	50.36(c)(2)	-	50.73(a)(2)(vii)	-	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
			-	20.405(a)(1)(iii)	X	50.73(a)(2)(i)	-	50.73(a)(2)(viii)(A)	-	
			-	20.405(a)(1)(iv)	-	50.73(a)(2)(ii)	-	50.73(a)(2)(viii)(B)	-	
			-	20.405(a)(1)(v)	-	50.73(a)(2)(iii)	-	50.73(a)(2)(x)	-	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Kurt B. Lewis, Licensing Engineer	AREA CODE 5 0 9 3 7 7 - 4 1 4 5

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) ☒ NO

ABSTRACT (16)

At 1130 hours on November 21, 1994, with the plant at 100 percent power, during performance of Technical Specification Surveillance (TSS) procedure PPM 7.4.7.2.8 "Control Room Ventilation Pressurization Flow Test," emergency fan unit WMA-FN-54B failed to pressurize the main control room sufficiently to meet the associated surveillance requirement (a slight positive pressure was achieved, however). A missing gasket, removed October 26, 1994 from an access door of main control room air handling unit WMA-AH-51B, caused the failure. Because WMA-FN-54B discharges into the control room via WMA-AH-51B, leakage past the missing gasket precluded sufficient control room pressurization. The root cause of this event was that the design of WMA-AH-51B was modified without the proper authorization, design reviews, or controls. Corrective actions consisted of counseling the Mechanical Maintenance Supervisor and discussing the lessons learned from this event with the maintenance crafts. This event has no safety significance, because WMA-FN-54B did pressurize the control room, redundant emergency fan WMA-FN-54A remained capable of pressurizing the control room, and control room pressurization was not required during this short time period.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION							
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		Year	Number	Rev. No.			
		94	0119	010	2	OF	4
TITLE (4) GASKET MISSING FROM MAIN CONTROL ROOM AIR HANDLER WMA-AH-51B PRECLUDES ASSOCIATED EMERGENCY FAN WMA-FN-54B FROM SUFFICIENTLY PRESSURIZING THE CONTROL ROOM							

Event Description

At 1130 hours on November 21, 1994, with the plant at 100 percent power, during performance of Technical Specification Surveillance (TSS) procedure PPM 7.4.7.2.8 "Control Room Ventilation Pressurization Flow Test," emergency fan unit WMA-FN-54B [FAN] failed to pressurize the main control room sufficiently to meet the associated surveillance requirement. A missing gasket removed October 26, 1994 from access door three of main control room air handling unit WMA-AH-51B [AHU], caused the failure. Because WMA-FN-54B discharges into the control room via WMA-AH-51B, leakage past the missing gasket precluded sufficient control room pressurization even though a positive pressure was achieved. This event did not prevent redundant emergency fan WMA-FN-54A from meeting the TSS control room pressurization requirement.

Immediate Corrective Action

An investigation team noted that a deficiency tag, dated October 26, 1994, had been hung on WMA-AH-51B to identify that a gasket was "missing" from the unit's number three door. Suspecting this to be the cause of the problem, the team temporarily sealed the door, reperformed PPM 7.4.7.2.8, and verified that WMA-FN-54B met the associated surveillance requirement.

Further Evaluation

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

On October 26, 1994, control room shift management, noting that the control room was too warm, contacted mechanical maintenance requesting that an inspection of non safety-related chiller equipment be conducted. This equipment provides cooling for main control room air handler WMA-AH-51B during normal operation. The HVAC troubleshooting crew and a Mechanical Maintenance Supervisor inspected the chiller and control room air-inlet registers. The team found no problems with the chiller equipment, noted the registers were partially plugged, and had them cleaned.

To ensure thoroughness, the team locally inspected the heating coils of WMA-AH-51B to ensure that they were not inadvertently energized. These coils are accessed through door three of WMA-AH-51B. The team did not realize that WMA-AH-51B is safety-related equipment. At the conclusion of the inspection, door three would not close. The team noted that the door appeared warped and that the gasket seemed to be obstructing closure. The team informed the control room that they were having difficulty closing the door. Control room personnel directed them to close the door promptly. The Mechanical Maintenance Supervisor subsequently directed the mechanics to remove the gasket. With the gasket removed, the door closed. The Mechanical Maintenance Supervisor did not follow up and inform the control room that they had removed the gasket.

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TITLE (4) GASKET MISSING FROM MAIN CONTROL ROOM AIR HANDLER WMA-AH-51B PRECLUDES ASSOCIATED EMERGENCY FAN WMA-FN-54B FROM SUFFICIENTLY PRESSURIZING THE CONTROL ROOM							

The associated work request and deficiency tag were not initiated until November 2, 1994. The Mechanical Maintenance Supervisor later explained that he was aware that the control room temperature had returned to normal after the control room air inlet registers were cleaned (on October 26th), and that he therefore did not sense an urgency to promptly initiate the work request. The supervisor could not recall if he clearly communicated the need to initiate a work request earlier than November 2nd; however, by November 2nd, he ensured that a work request and deficiency tag were prepared.

Work Control personnel assigned a low priority to repair door three. The Work Control planner stated that when he reviewed the work request (for door three), he concluded that no operability concern existed because the request stated that the gasket was missing, not removed. The planner thought that the missing gasket was a pre-existing condition and that the system had been operable during this condition. Given the implication that the missing gasket was a pre-existing condition and not a change in system configuration, the planner did not see the urgency to repair door three.

Root Cause

The root cause of this event was that the Mechanical Maintenance Supervisor allowed the design of WMA-AH-51B to be modified without the proper authorization, design reviews, or controls. Based on the interviews conducted, this incident is isolated; activities involving alteration of plant equipment without proper documentation and authorization are not routine.

Further Corrective Action

1. On December 16, 1994, the Maintenance Manager counseled the Mechanical Maintenance Supervisor on the need for the proper work authorization, design reviews, and controls before proceeding with work activities that alter the plant configuration (including the removal of gaskets). The manager also emphasized that he expected his supervisors to promptly identify and document plant problems.
2. By December 12, 1994 the Maintenance Manager had discussed this event with each of his maintenance shops. During these discussions, the manager pointed out: 1) the need to promptly and accurately document plant problems to include what was done to correct the problem and any unusual observations or deviations from the routine during the course of associated work, 2) the requirement to obtain approval prior to changing the configuration of the plant, and 3) the importance of pressurization air boundaries.

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3. As stated, this event was identified on November 21, 1994. On November 22, 1994, a new gasket had been installed on door three. On November 23, 1994, operations performed PPM 7.4.7.2.8 for WMA-FN-54B, but it failed its surveillance due to an unrelated work activity performed on November 22, 1994. This unrelated event is reported separately under LER 94-021-00 (currently in draft form).
4. Although not directly related to the root cause of this event, there appears to be a general weakness in the understanding of pressure boundary requirements. In this event, plant personnel did not recognize the impact that removing a gasket from WMA-AH-51B would have on emergency ventilation operability. Similarly, LER 94-021-00 discusses an event in which a flow path created by a barrier impairment in a control room floor penetration precluded both redundant emergency ventilation trains from sufficiently pressurizing the main control room to meet the surveillance requirement. The impact this impairment had on the operability of the control room emergency ventilation system was not recognized by several engineering and plant personnel. As part of the LER 94-021-00 corrective actions, formal training on barrier impairments, especially those impacting a pressure boundary, will be presented to operations, engineering, and work planning personnel.

Safety Significance

Two remote fresh-air intakes serving either of two redundant emergency filter units [FU] and associated emergency fans (WMA-FU-54A(B) and WMA-FN-54A(B) respectively) are installed to pressurize the main control room. This limits infiltration of radioactive contaminants or smoke within the plant but external to the control room. During a Loss Of Coolant Accident (LOCA), a protection signal automatically isolates the normal control room ventilation system and initiates emergency pressurization of the control room.

The main control room is located on the 501 Elevation of the Radwaste Building. TSS procedure PPM 7.4.7.2.8 requires that each emergency fan be capable of pressurizing the main control room to 0.125 inches of water column with respect to adjacent areas to prevent unfiltered inleakage. During performance of PPM 7.4.7.2.8, WMA-FN-54B pressurized the control room to 0.05 inches of water column. Thus, WMA-FN-54B did provide positive pressure to the control room. Further, this event did not preclude redundant emergency fan WMA-FN-54A from meeting this surveillance requirement. Thus, there is no safety significance associated with this event.

Similar LERs

LER 94-021-00, currently in draft form, documents a condition in which holes cut in fire seals in control room floor penetration 5016 precluded redundant emergency fans WMA-FN-54A(B) from pressurizing the main control room sufficiently to meet the associated surveillance requirement. The LER 94-021-00 event occurred after the event described in this LER.

