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 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 93-005-00: on 930202, inadequate documentation & review of operability status results in unavailability of wetwell purge exhaust valve. Caused by technical inadequacies. Wetwell valves adjusted & returned to operable status. W/930304 ltr.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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March 4, 1993
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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. 93-005**

Transmitted herewith is Licensee Event Report No. 93-005 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,



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

JWB/RJP/my
Enclosure

cc: Mr. J. B. Martin, NRC - Region V
Mr. R. Barr, NRC Resident Inspector (Mail Drop 901A, 2 Copies)
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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 7

TITLE (4)

**INADEQUATE DOCUMENTATION AND REVIEW OF OPERABILITY STATUS RESULTS IN
UNAVAILABILITY OF WETWELL PURGE EXHAUST VALVE DURING REQUIRED
CONDITIONS**

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	2	0	2	9	3	9	3	0	0	5	0	0	0	3	0	4	9	3							0	5	0	0	0		

OPERATING MODE (9) **3** 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(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)(ix)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
R. J. Poché, 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 1557 hours on February 2, 1993, it was identified that the plant had entered into an Operational Condition where the Wetwell Purge Exhaust Valves were required to be operable without performing Technical Specification required maintenance. Technical Specification Surveillance Requirement 4.6.1.8.2.b specifies that these valves are to be secured closed, and maintenance performed during the next plant cold shutdown if their leakrate is greater than 0.05 La. The valves were secured shut after their leakrate was measured to be greater than 0.05 La on November 23, 1992. However, the plant entered Operational Condition 4 (cold shutdown) on January 21, 1993, and was later restarted on January 28, 1993 without performing valve maintenance.

This event had two root causes. The primary cause was technical inaccuracies in documents written to document the failed LLRT on November 23, 1992. The secondary cause was required verifications that were not adequately performed. As corrective actions, the affected valve was repaired, procedures regarding preparation, review and use of LCO/INOP Status Sheets will be revised, required reading will be provided, and expectations regarding review of deficient conditions involving Technical Specification required equipment and systems will be communicated to Control Room Supervisors and Shift Managers. WNP-2 did not experience an event that required use of the affected valves during the period when their leakrate exceeded limits. Consequently, this condition did not have an adverse affect on safe operation of the plant, or the health and safety of plant personnel or the general public.

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TITLE (4)		INADEQUATE DOCUMENTATION AND REVIEW OF OPERABILITY STATUS RESULTS IN UNAVAILABILITY OF WETWELL PURGE EXHAUST VALVE DURING REQUIRED CONDITIONS									

Plant Conditions

Plant Mode - 3 (Hot Shutdown)

Power Level - 0%

Event Description

At 1557 hours on February 2, 1993, a plant engineer identified that the plant had entered into an Operational Condition where the Wetwell Purge Exhaust Valves (CEP-V-3A, CEP-V-4A) were required to be operable without performing maintenance necessary to satisfy Technical Specification Surveillance Requirement 4.6.1.8.2.b. This Surveillance Requirement specifies that the Wetwell Purge Exhaust Valves are to be secured closed, and corrective maintenance performed during the next plant cold shutdown if their leakrate is greater than 0.05 La. The Wetwell Purge Exhaust Valves had been secured shut on November 23, 1992 after their leakrate was measured to be greater than 0.05 La. However, the plant entered Operational Condition 4 (cold shutdown) on January 21, 1993, and was later restarted on January 28, 1993 without performing the required maintenance.

Immediate Corrective Action

As immediate corrective action, the applicable Technical Specification Limiting Conditions for Operation (LCOs) were entered, and efforts were initiated to return the Wetwell Purge Exhaust Valves to operable status.

Further Evaluation, Root Cause, and Corrective Action

A. Further Evaluation

1. The condition described in this report is reportable pursuant to the requirements of 10CFR50.73(a)(2)(i)(B) as an operation or condition that is prohibited by the plant Technical Specifications. Corrective maintenance required by Technical Specification Surveillance Requirement 4.6.1.8.2.b was not performed prior to restarting the plant from Operational Condition 4.
2. On November 23, 1992, an LLRT was performed on valves CEP-V-3A and CEP-V-4A. The measured leakrate for these valves was in excess of the 0.05 La leakrate limit imposed by Technical Specification Surveillance Requirement 4.6.1.8.2.a. Consequently, in accordance with Technical Specification Surveillance Requirement 4.6.1.8.2.b, the valves were secured closed. Additionally, the Shift Manager initiated a Problem Evaluation Request (PER) to document this condition, and an LCO/INOP Status Sheet was prepared to track inoperability of the valves.

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The LCO/INOP Status Sheet that was initiated correctly reflected Technical Specification Requirements to secure the valves closed and perform an LLRT if the valves were operated. However, it did not correctly document the Technical Specification required Action that is contained within Surveillance Requirement 4.6.1.8.2.b. This action requires performance of corrective maintenance prior to restart from the next plant cold shutdown. Additionally, the PER that was written to document the failed LLRT did not reference the cold shutdown requirement, and incorrectly suggested that it would be acceptable to perform the repair work prior to restart from the next refueling outage.

Inoperability of the Wetwell Purge Exhaust Valves was discussed on the morning of November 24, 1992 during the Work Control Daily Plant Status meeting, and the valves were added to the LCOs/Compensatory Measures list. During this meeting, a maintenance work request (MWR) was identified that had been previously written to replace seals on the Wetwell Purge Exhaust Valves. It was not recognized that the priority assigned to this MWR, which was scheduled for performance during the next refueling outage, would not be adequate to satisfy Technical Specification requirements if the plant entered Operational Condition 4 prior to the refueling outage.

The PER written to document Wetwell Purge Exhaust Valve inoperability was also discussed on the morning of November 24 during a Management Review Committee (MRC) meeting. This discussion was largely influenced by inaccurate information provided on the PER, and also by the discussion that was held earlier that morning in the Work Control Daily Plant Status meeting. The PER review performed by MRC was conducted in an overview capacity, and was not intended to supercede the primary plant processes used to identify conditions that can affect plant operations. However, this review was an opportunity to recognize that the PER, which suggested that repair activities could be performed during the next refueling outage, might not be adequate to satisfy Technical Specification requirements.

3. An automatic scram was experienced at 0944 hours on January 21, 1993 following an unplanned main feedwater pump trip. The plant reached Operational Condition 4 at 2057 hours the same day. In preparation for restart, the Minimum Startup Checklist was completed at 1430 hours on January 28, 1993. This checklist includes a review of LCO/INOP Log Sheets. When this review was performed it did not identify repair of CEP-V-3A and CEP-V-4A as a constraint to restart.

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The Wetwell Purge Exhaust Valves are required in Operational Conditions 1 through 3. Following the January 21, 1993 shut down, the plant first entered into an Operational Condition where the valves were required to be operable at 1734 hours on January 28, 1993. The plant was subsequently operated between Operational Conditions 1 and 3 until February 3, 1993. During this time a low oil level alarm was received for one of the reactor recirculation (RRC) pumps.

In order to investigate the cause of this alarm, actions were taken on the morning of February 2, 1993 to deinert primary containment so that a drywell entry could be made. Deinerting primary containment requires operation of the Wetwell Purge Exhaust Valves, and in accordance with Technical Specifications, an LLRT must be performed if these valves are operated. Consequently, following completion of the purge evolution, an LLRT was performed on the afternoon of February 2, 1993. The results of this LLRT demonstrated a leakrate in excess of Technical Specification limits.

The applicable Limiting Conditions for Operation (LCOs) were entered for Technical Specifications 4.6.1.8.2.b and 3.6.1.1 at 1558 hours on February 2, 1993. It was also during this same approximate time frame when the system engineer identified that the plant had previously operated in Operational Conditions where the Wetwell Purge Exhaust Valves were required while the valves were in an inoperable condition.

Efforts to reduce valve leakage by performing linkage adjustments were unsuccessful. As a result, it became necessary to enter Operational Condition 4 so that the spool piece installed between CEP-V-3A and CEP-V-4A could be removed and repairs made. This evolution did not constitute a Technical Specification required plant shut down because the plant was already in Operational Condition 3 (hot shutdown) when the failure to perform required maintenance was identified. The plant reached Operational Condition 4 at 0925 hours on February 3, 1993 (approximately 17.5 hours after discovery).

Testing of CEP-V-3A and CEP-V-4A determined that the leakrate for the outboard valve was acceptable (less than 0.05 La), and that the excess leakage was through the inboard isolation valve. Physical examination of the seal for the inboard valve did not identify damage. Adjustment nuts on the retaining ring for the soft seal of the inboard valve were each tightened in order to expand the seal material, and the valve was subsequently leakrate tested and found to be acceptable. Both valves were returned to operable status at 1747 hours on February 4, 1993.

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B. Root Cause

There were two root causes for the condition described in this report. The primary root cause involved failure to fully and/or correctly document the maintenance requirement described within Technical Specification Surveillance Requirement 4.6.1.8.2.b on either the LCO/INOP Status Sheet or the PER. This cause involved Written Procedures and Documents category deficiencies within the Technical Inaccuracies subcategory.

The secondary root cause involved three instances whereby the Technical Specification required Action to perform valve maintenance was not identified. These examples involved Personnel - Work Practices category deficiencies that resulted from Required Verifications that were not Adequately Performed. The first two examples involved errors by licensed, utility personnel, and the third example involved an error by non-licensed, utility personnel.

1. The first example resulted when requirements to repair CEP-V-3A and CEP-V-4A were not recognized to be a constraint for restart from Operational Condition 4 during performance of the Minimum Startup Checklist. As directed in procedures, the review of LCO/INOP Status Sheets that is associated with this checklist should have identified this constraint.
2. The second example resulted when maintenance activities necessary to return the Wetwell Purge Exhaust Valves to operable status were not recognized to be a constraint to restart from Operational Condition 4 by personnel in Work Planning. In accordance with plant procedures, it is the responsibility of the Operations Work Control Coordinator to ensure that work control activities are adequately identified and scheduled to maintain compliance with the plant Technical Specifications.
3. The third example involved failure to recognize that repair of CEP-V-3A and CEP-V-4A was a constraint for restart from Operational Condition 4 during MRC review of the PER. This review did not fully satisfy requirements established in plant procedures.

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C. Further Corrective Action

The following corrective actions either have been, or will be taken:

1. The Wetwell Purge Exhaust Valves, CEP-V-3A and CEP-V-4A, were adjusted and returned to operable status.
2. The PER process has recently undergone a major upgrade and revision. The revised process incorporates provisions that have provided overall strengthening of the PER process, and includes specific improvements that address the review of deficient conditions for restart impact.
3. Procedure PPM 1.3.1D, Conduct of Operations, will be revised to provide more detailed direction regarding information that should be provided on LCO/INOP Status Sheets. Also, the revised procedure and a copy of this LER will be placed in required reading for licensed Operations personnel. Completion of the procedure change and required reading distribution is scheduled for March 15, 1993.
4. Management expectations with regard to review of deficient conditions involving Technical Specification required equipment and systems will be communicated to Control Room Supervisors and Shift Managers. Completion of this action is scheduled for March 5, 1993.

Safety Significance

WNP-2 did not experience an event that required use of the safety function associated with the Wetwell Purge Exhaust Valves during the period when the measured leakrate was in excess of Technical Specification limits. Consequently, the condition described in this report did not have an adverse affect on safe operation of the plant, or the health and safety of plant personnel or the general public. Additionally, although the leakrate associated with the Wetwell Purge Exhaust penetration was in excess of Technical Specification limits, the excess leakage was limited to the inboard valve. As a result, even if an event had occurred, plant operation within the release limits of 10CFR100 would have been assured.

Similar Events

An event involving leakrate testing of the drywell airlock was reported in LER 91-028. This event involved testing that was initiated, but not completed, within the allowed interval due to inadequate tracking of an LCO action. Additionally, previous events involving Technical Specification directed actions that were not met due to inadequate tracking of LCO actions have been reported in LERs 92-038 and 92-046. These previous events involved actions that were tracked under the Chemistry LCO Log, and did not involve the Operations LCO/INOP Log.

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EIIS Information

Text Reference

EIIS Reference

System Component

Wetwell Purge Exhaust Valves, CEP-V-3A &
CEP-V-4A

VB

PDCV

Reactor Recirculation Pumps

AD

P

Primary Containment, Wetwell

NH

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Standby Gas Treatment System

BH

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