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 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 94-016-00: on 940701, determined that CR scram time had not been conducted during previous outages. Caused by nonconservative interpretation of TS. Two training programs for plant have been implemented covering TS.W/940729 ltr.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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July 29, 1994
G02-94-181

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. 94-016-00

Transmitted herewith is Licensee Event Report No. 94-016 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/PLP/my
Enclosure

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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)

FAILURE TO CONDUCT CONTROL ROD MAXIMUM SCRAM INSERTION TIME TESTING
DUE TO NONCONSERVATIVE INTERPRETATION OF TECHNICAL SPECIFICATION
SURVEILLANCE

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	7	0	1	9	4	9	4	0	1	6	0	0	0	7	2	9	9	4							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	<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 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 checked="" 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

P. L. Powell, Licensing Engineer

TELEPHONE NUMBER

AREA CODE

5 0 9 3 7 7 - 4 2 8 1

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)

The Technical Specification Surveillance Improvement Program has heightened awareness of system operability and Technical Specification requirements fostering a proactive attitude to question procedure/Technical Specification compliance. As a result of this heightened awareness, on July 1, 1994 WNP-2 staff determined that Control Rod (CR) Scram Time testing (per Technical Specification surveillance 4.1.3.2.b following CR or control rod drive system maintenance or modification prior to entry into Operational Conditions 1 and 2) had not been conducted during previous outages. Extensive post maintenance testing (PMT) and scram time testing at approximately 25% power per 4.1.3.2.a (at ≥ 950 psig prior to exceeding 40% power) had been performed. The cause was a nonconservative Technical Specification interpretation. The interpretation concluded that comprehensive PMT confirmed that maintenance or modification had not affected the scram times. Corrective action was to obtain a change to the Technical Specifications to accept a low pressure test provided the test is repeated at ≥ 950 psig prior to exceeding 40% power. This event had negligible safety significance because testing per 4.1.3.2.a at ≥ 950 psig at less than 40% power confirmed the scram times to be within limits.

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TITLE (4) FAILURE TO CONDUCT CONTROL ROD MAXIMUM SCRAM INSERTION TIME TESTING DUE TO NONCONSERVATIVE INTERPRETATION OF TECHNICAL SPECIFICATION SURVEILLANCE							

Event Description

At 1430 hours on July 1, 1994, with WNP-2 in Operational Condition 4 at 0 percent power, plant staff determined that Control Rod (CR) Maximum Scram Insertion Time testing had not been conducted following CR or control rod drive (CRD) system maintenance or modifications during previous refueling outages as required by Technical Specification surveillance 4.1.3.2.b. Previous testing had been performed at greater than or equal to 950 psig prior to exceeding 40% power (per 4.1.3.2.a), but not at greater than or equal to 950 psig prior to entering Operational Conditions 1 and 2 (per 4.1.3.2.b). This identification of the misinterpretation of the Technical Specification requirements was made due to awareness brought out by the Technical Specification Surveillance Improvement Project (TSSIP). This ongoing program has heightened plant staff awareness of equipment operability and Technical Specification requirements and has fostered the questioning attitude that prompted discovery of the issue reported herein.

In the past, the phrase in surveillance 4.1.3.2.b, "maintenance or modification...which could affect the scram insertion time of those specific rods" was interpreted such that adequate component testing (through post maintenance testing [PMT]) could be accepted as confirmation that scram insertion times were not affected. PMT includes friction testing of the rods during full insertion and withdrawal to monitor drive piston pressure to ensure that the rod is not impeded by obstruction or excessive friction. CRD scram solenoid pilot valve (SSPV) PMT exercises the valves to ensure a scram signal vents the valves as required. Functional testing of the CRD scram accumulators ensures that the accumulators can be charged with water and nitrogen and are free to actuate as required to release the pressure necessary to scram at low reactor pressure conditions. Consequently, component testing in PMT provided a reasonable assurance that scram insertion times were not affected and surveillance 4.1.3.2.b was not applicable. As a result, with adequate PMT, a test per 4.1.3.2.b was not considered to be required.

However, because of the closer scrutiny and heightened awareness of equipment operability brought out through the TSSIP program, the interpretation allowing the use of PMT has been questioned. Because the PMT was not a scram insertion time test conducted at greater than or equal to 950 psig, credit should not have been taken for the PMT satisfying the conditional initiating guidance of surveillance 4.1.3.2.b.

Immediate Corrective Action:

With the plant in a refueling outage in Operational Condition 4 and the CRD system not required to be operable, no immediate corrective action was necessary.

Further Evaluation:

This event is reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications. A misconception existed that because comprehensive PMT of the CR and CRD system components consistently confirmed that maintenance or modification had not affected the scram times, a test

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was not required by the conditional initiating guidance stated in surveillance 4.1.3.2.b. As a result it was previously concluded that the 4.1.3.2.a test satisfied the surveillance requirements. However, the Technical Specification did not specifically accept PMT or scram time testing at less than 950 psig as adequate to satisfy surveillance 4.1.3.2.b.

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

Root Cause:

The cause of the missed testing was a nonconservative interpretation of the Technical Specification in that comprehensive PMT was accepted as an adequate method of confirming that CRD scram insertion rates would not have been affected by maintenance or modification.

Further Corrective Actions:

An emergency Technical Specification change request was submitted on July 8, 1994 requesting that credit for scram time testing at less than 950 psig be allowed to support confirmation of CRD operability. This permits entry into Operational Conditions 1 and 2 based on a test at pressure less than 950 psig provided the test is repeated at greater than 950 psig prior to exceeding 40% of reactor power. This request was approved July 14, 1994.

Two training programs for Plant Staff have recently been implemented covering Technical Specifications and operability of equipment. The program for Licensed Operators and Plant Operations Committee members which has been completed, dealt with Technical Specification interpretation including discussion of Technical Specification operability as referenced by Generic Letter 91-18 "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability." The other training program is for Technical Staff and Engineering personnel and also addresses Generic Letter 91-18 but from an engineering support perspective. These training programs should provide Operations, Technical Staff and Engineering personnel with increased awareness of equipment operability requirements and Technical Specifications details, resulting in improved understanding and interpretation of the Technical Specifications.

Safety Significance:

This event had negligible safety significance. PMT (CRD friction testing, CRD SSPV venting and CRD scram accumulator functional testing) provides substantial confidence that components of the CR and CRD systems are operable prior to reactor startup in lieu of conducting the scram time test. In addition, the CRD scram insertion time testing conducted in accordance with Technical Specification 4.1.3.2.a did confirm that the CRDs were operable with scram insertion times within limits. Those assumptions made

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for scram insertion rates in the WNP-2 safety analysis were demonstrated by scram insertion time testing. Thus, the missed surveillance testing did not affect the ability of the CRD scram system to perform its safety function.

Similar Events:

Licensee Event Report 93-010 and its supplements document the findings of the WNP-2 Technical Specification Surveillance Improvement Project (TSSIP). A purpose of the TSSIP was to verify that surveillance requirements are properly implemented in plant procedures. Surveillance 4.1.3.2.b is properly implemented in the WNP-2 procedures. Technical Specification surveillance 4.1.3.2.b is a conditional requirement and although a correct surveillance test exists for implementation of this surveillance, the conditional initiating guidance for implementing this test after maintenance was not recognized and therefore did not exist in plant procedures. The TSSIP is ongoing and has as a remaining effort a review of conditional surveillance requirements and their initiating events to assure that they are properly implemented. It is likely that the inconsistent initiating guidance for surveillance 4.1.3.2.b would have been recognized and corrected. Further, the questioning attitude promoted by the TSSIP is creating a greater probability that similar situations such as that reported herein will be discovered and corrected.

EIIS Information

Text Reference

EIIS Reference

<u>System</u>	<u>Component</u>
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Control Rod (CR)	AA	---
Control Rod Drive (CRD)	AA	---
CRD Scram Solenoid Pilot Valve (CRD SSPV)	AA	SOL
CRD Scram Accumulators	AA	ACC