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 POCHÉ, R.J. Washington Public Power Supply System
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 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-040-00: on 920930, determined that start & load time
 for standby & HPCS DG not measured during monthly
 surveillance testing. Caused by deficiencies in mgt methods.
 Expedited effort initiated to amend procedure. W/921030 ltr.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

October 30, 1992
G02-92-246

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. 92-040-00**

Transmitted herewith is Licensee Event Report No. 92-040 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/RP/lr
Enclosure

cc: Mr. J. B. Martin, NRC - Region V
Mr. W. Ang, 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)

Start and Load Times for Standby and HPCS Diesel Generators Not Measured During Monthly Surveillance Testing Due to Incorrect Translation of Technical Specifications

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	9	3	0	9	2	9	2	0	4	0	0	0	1	0	3	0	9	2							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)

1 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)
X 50.73(a)(2)(i)
50.73(a)(2)(ii)
50.73(a)(2)(iii)

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.J. Poche', Compliance Engineer

TELEPHONE NUMBER

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) X NO

ABSTRACT (16)

At 1245 hours on September 30, 1992, it was determined that procedures used to perform monthly surveillance testing of the High Pressure Core Spray and standby diesel generators were not adequate to demonstrate Technical Specification requirements. Technical Specifications require demonstration that these diesel generators start, accelerate, and load within prescribed time intervals. The procedures used to perform these demonstrations did not measure start and load times because it was no longer believed necessary following changes made to satisfy engine warmup requirements. Required safety functions associated with the diesel generators were regularly demonstrated during semi-annual testing; therefore, this condition was not safety significant.

The root cause of this condition was deficiencies in management methods that were in place when monthly surveillance procedures for the diesel generators were changed, and involved a personnel error that resulted in incorrect translation of Surveillance Requirement 4.8.1.1.2. As corrective action, procedures used to perform monthly testing of the diesel generators were amended, and the diesels were tested satisfactorily. Also, a team will be assigned to perform a review of surveillance procedures. The methods used to control changes to procedures have been addressed through programmatic changes, and designated personnel have received training on the performance of safety significance evaluations.

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TITLE (4) Start and Load Times for Standby and HPCS Diesel Generators Not Measured During Monthly Surveillance Testing Due to Incorrect Translation of Technical Specifications							

Plant Conditions

Plant Mode: 1 (Power Operation)

Power Level: 100%

Event Description

At 1245 hours on September 30, 1992, it was determined that procedures used to perform monthly surveillance testing of the standby (Division I and II) and High Pressure Core Spray (HPCS) diesel generators were not adequate to demonstrate Technical Specification requirements. Technical Specification Surveillance Requirement 4.8.1.1.2 states that the standby and HPCS diesel generators shall be demonstrated to start, accelerate to full speed within 10 seconds (13 seconds for HPCS), and synchronize and load within the subsequent 60 seconds on a monthly basis in Operational Conditions 1 through 3.

Surveillance procedures used to perform these monthly demonstrations did not include provisions to measure the time required for the HPCS and standby diesel generators to start or load. This testing methodology deficiency was discovered by two senior plant engineers during a discussion of testing requirements for an Action Statement associated with Technical Specification 3.8.1.1. At the time of this discussion, the plant was involved in accelerated testing of the standby diesel generators on a once per eight hour basis due to failure of the HPCS diesel generator to start and load during testing. This cause of this failure was unrelated to the conditions described in this report.

Immediate Corrective Actions

As immediate corrective action, an expedited effort was initiated to amend the procedures used to perform monthly surveillance testing of the standby and HPCS diesel generators. The corrections included provisions for a timed start and timed loading of the diesel generators from a rest condition. The Division I and Division II standby diesel generators were declared operable based upon test results from the amended procedures at 1910 hours and 2009 hours on September 30, 1992, respectively. The HPCS diesel generator, which was inoperable at the time the test procedure deficiencies were identified, was tested with an amended procedure prior to returning it to service at 0023 hours on October 1, 1992.

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TITLE (4) Start and Load Times for Standby and HPCS Diesel Generators Not Measured During Monthly Surveillance Testing Due to Incorrect Translation of Technical Specifications							

Further Evaluation and Corrective Action

Further Evaluation

The final Technical Specifications for WNP-2 were issued upon receipt of the Plant Operating License on December 20, 1983, and reflected a change to Technical Specification Surveillance Requirement 4.8.1.1. This change involved a requirement to use pre-test prelube and/or warmup procedures during surveillance testing of the HPCS and standby diesels. Implementing prelube requirements for the HPCS and standby diesel engines did not require any changes to plant design or procedures because the HPCS and standby diesel engines were already equipped with a continuous operation prelube system. However, implementation of the pre-test warmup requirement did require procedure and design changes due to the fact that it must be performed at idle speed.

The original standby diesel generator design did not include the ability to operate at idle speed. This discrepancy between Technical Specification Surveillance Requirement 4.8.1.1 and the plant design was identified in early 1984, shortly after issuance of the plant Technical Specifications, and was discussed with NRR personnel prior to entering an Operational Condition that would have resulted in plant operations that were not in accordance with Technical Specifications. It was recognized and acknowledged during this discussion that there would be violations of the requirement to warmup the standby diesels during monthly testing until either the necessary design changes or a Technical Specification change could be implemented. A Technical Specification change was granted in August 1984.

A Plant Modification Request to perform the engineering changes needed to allow standby diesel engine operation below synchronous speed was initiated in early 1984. It was not necessary to perform any modifications to the HPCS diesel engine in order to achieve idle speed operation since its original design included a feature that allowed manual control of engine speed. Warmup requirements for the HPCS diesel generator were reflected in the associated monthly surveillance test procedure in January 1984, and design and procedure changes for the standby diesel generators were completed in 1987.

As previously stated, Technical Specification Surveillance Requirement 4.8.1.1.2 states that the ability of the standby and HPCS diesel generators to start from a rest condition, accelerate to full speed within 10 seconds (13 seconds for HPCS), and synchronize and load within the subsequent 60 seconds shall be demonstrated on a monthly basis. A note to this Surveillance Requirement further states that "diesel generator starts from ambient conditions shall be performed at least once every 184 days (6 months) in these surveillance tests and all other engine starts for the purpose of this surveillance testing shall be preceded with by an engine prelube period and/or other pre-test warmup procedures recommended by the manufacturer."

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Technical Specification 3/4.8.1.1 delineates the operability requirements for AC electrical power sources during Operational Conditions 1 through 3. The intent of Technical Specification Surveillance Requirement 4.8.1.1.2, and the associated note, is that monthly diesel engine testing will be preceded by a warmup cycle at idle speed, and the monthly testing requirements will be performed after the warmup cycle is complete by demonstrating a timed fast start from a rest condition. The requirement to perform a warmup procedure prior to performing monthly surveillance testing was added in order to reduce diesel engine wear associated with excessive cold fast starting of the diesel engines.

When changes reflecting idle speed operation were incorporated into monthly surveillance procedures for the HPCS and standby diesel generators, the intent of this note was not correctly understood by plant personnel. It was broadly believed that the warmup sequence was to be performed in lieu of the required fast start during monthly testing, and that a fast start of the diesel engines from the rest condition was only required during semi-annual testing. As a result, steps satisfying the requirement to measure start and load times were deleted from monthly surveillance procedures when the engine warmup sequence was incorporated into surveillance procedures.

Failure to time the diesel generator start and load sequence was not corrected during subsequent biennial reviews of these surveillance procedures because the misconception that a fast start was only required during semi-annual (once per 184 day) testing was widely held among plant personnel. The procedures used to satisfy Technical Specification Surveillance Requirement 4.8.1.1.2 on a semi-annual basis include provisions to perform a timed diesel generator start and load sequence from a rest condition. This testing was performed correctly during the period when monthly testing requirements were incompletely implemented.

The root cause of the condition described in this report was deficiencies in management methods that were in place when monthly surveillance procedures for the standby and HPCS diesel generators were revised. The deficiencies resulted from inadequate development and control of the processes necessary to assure the accuracy of procedure changes. The condition described also involved a personnel error that resulted in incorrect translation of a note associated with Technical Specification Surveillance Requirement 4.8.1.1.2. This error resulted in incorporation of an incorrect testing methodology into the surveillance procedures used to perform monthly surveillance testing of the standby and HPCS diesel generators.

The condition described in this report resulted in plant operation that was not in accordance with the plant Technical Specifications, and is reportable pursuant to 10CFR50.73(a)(2)(i)(B). As a result of surveillance testing procedure inadequacies, operability requirements for the HPCS and standby diesel generators were not adequately demonstrated during previous operating cycles when they were required to be operable.

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The provisions of Technical Specification 4.0.3 were invoked upon discovery of the testing deficiency described in this report. Technical Specification 4.0.3 allows implementation of Action Statement requirements to be delayed for up to 24 hours when it is identified that a Surveillance testing requirement has not been performed. The standby diesel generators were tested satisfactorily and returned to service within the time allowed by Technical Specification 4.0.3.

The condition described in this event did not directly involve failure of a plant component.

Further Corrective Action

Incorporation of incorrect changes into plant procedures was a result of weaknesses that previously existed in the methods used to control changes to procedures. These weaknesses have already been addressed through programmatic changes. Revisions to plant procedures now receive either validation and verification, or a review by an independent reviewer who is knowledgeable in the procedure topic prior to approval.

Also, the procedure change process has been strengthened to require an independent review of proposed procedure changes performed in accordance with 10CFR50.59. This independent review is performed by a qualified reviewer prior to change implementation, and personnel who are designated as qualified reviewers receive specialized training on the evaluation of changes for safety significance. The processes used to control Technical Specifications change implementation have also been improved during recent years. These process improvements have provided greater assurance that changes to the Technical Specifications are reviewed and implemented correctly and on a timely basis.

As previously committed in LER 92-035, a project team will be assigned to perform a technical and compliance review of Technical Specification surveillance procedures. This review will ensure that procedures used to satisfy Technical Specification Requirements are technically accurate, and that each Surveillance Requirement is satisfied within plant procedures. Also, in order to assure Surveillance Requirements for the standby and HPCS diesel generators are fully and correctly reflected in existing test procedures, a reconciliation review of diesel generator surveillance procedures and Surveillance Requirements will be performed for requirements that are scheduled on at least a monthly basis. This review of diesel generator Surveillance Requirements will complement the project team review of overall Surveillance Program implementation, and is scheduled for completion by November 30, 1992.

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Safety Significance

The condition described in this report did not involve an actual failure of either a standby or HPCS diesel generator to start or load within the required time, nor did it involve circumstances which could have prevented the fulfillment of necessary safety functions. Additionally, the ability of the HPCS and standby diesel generators to perform their design function was demonstrated semi-annually despite deficiencies in the monthly surveillance procedures. Consequently, the condition described in this report did not adversely affect operation of the plant or the safety of the public, and was not safety significant.

Similar Events

LERs 91-013, 018, 019, 028, 036, 92-002, and 92-035 identified instances of failure to satisfy Technical Specification Surveillance Requirements. The surveillance review team described in the corrective action section of this report was created to provide assurance of surveillance procedure adequacy. Previous events involving inadequate surveillance testing of the standby diesel generators due to the lack of an idle speed operation feature were described in LERs 84-009, 023, 029, 041, 059, 070, and 085.

EIIS Information

Text Reference

Standby Diesel Generator
High Pressure Core Spray System (HPCS)
HPCS Diesel Generator
Handswitch, HPCS Control Circuit

EIIS Reference

<u>System</u>	<u>Component</u>
EB	DG
BG	--
BG	DG
BG	HS