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SUBJECT: LER 98-012-01:on 980715,failure to comply with requirements of TS SR 3.8.4.7 was noted.Caused by inadequate work practices.Training session was held with personnel.With 981027 ltr.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM
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October 27, 1998
GO2-98-182

Docket No. 50-397

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21**
LICENSEE EVENT REPORT 1998-012-01

Transmitted herewith is Licensee Event Report No. 1998-012-01 for WNP-2. This supplemental report is submittted pursuant to 10 CFR 50.73 and discusses additional details of the root cause analysis, corrective actions taken, and actions taken to preclude recurrence.

Should you have any questions or require additional information pertaining to this report, please contact PJ Inserra at (509) 377-4147.

Respectfully,

JV Parrish
Chief Executive Officer
Mail Drop 1023

1/1

IE22

Attachment

cc: EW Merschoff - NRC - RIV
GA Pick - NRC - RIV
C Poslusny, Jr. - NRR
NRC Sr. Resident Inspector - 927N
DL Williams - BPA/1399
PD Robinson - Winston & Strawn

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Washington Nuclear Plant - Unit 2	50-397	1 OF 5

TITLE (4)

Failure to comply with requirements of Technical Specification Surveillance Requirement 3.8.4.7

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV. NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
07	15	1998	1998	012	01	10	27	1998	FACILITY NAME	DOCKET NUMBER

OPERATING	1
POWER	100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)
	20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)
	20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER
	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 (Include Area Code)
F.A. Schill, Licensing Engineer	(509) 377-2269

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	MONTH	DAY	YEAR
	YES (If yes, completed EXPECTED SUBMISSION DATE).	NO				

ABSTRACT:

On July 15, 1998 at 1600 with the plant operating at 100% power, it was determined that the 24 month Surveillance Requirement (SR) 3.8.4.7 had not been fulfilled within the specified Frequency of SR 3.0.2 for the division 2, 125 VDC battery E-B1-2 [EJ]. The Supply System declared SR 3.8.4.7 not met and then used the provision of SR 3.0.3 to delay declaring Technical Specification (TS) Limiting Condition for Operation (LCO) 3.8.4 not met while enforcement discretion was pursued. The Supply System requested and received enforcement discretion for completion of the battery service test of SR 3.8.4.7 for the division 2, 125 VDC battery E-B1-2.

SR 3.8.4.7 was not met because surveillance procedure ESP-B12-F101 was not revised to incorporate the "modified" discharge profile described in TS Bases 3.8.4.8 when surveillance procedure changes were made to implement the Improved Technical Specifications. Note 1 of SR 3.8.4.7 permits the use of a "modified" performance discharge test to be performed in lieu of the battery service test once every 60 months. The battery discharge profile in the 60 month performance discharge surveillance procedure ESP-B12-F101 was not modified to envelope the discharge profile of the service test and therefore was not sufficient to meet the requirements of SR 3.8.4.7 when it was used for that purpose on April 30, 1997. This procedure deficiency was discovered as a result of questions raised by the NRC during an engineering inspection at WNP-2. A subsequent evaluation revealed that this event had no impact on the battery's capability to perform its intended safety function. The root cause for this event is that work practices used when the procedure was revised were inadequate to ensure that the modified discharge profile was incorporated as part of the changes required for implementation of Improved Technical Specifications.

Event Description

On July 15, 1998 with the plant operating at 100% power, it was determined that the requirements of the 24 month Surveillance Requirement (SR) 3.8.4.7 had not been fulfilled within the Frequency plus the allowed extension time specified in the Technical Specifications (TS) for the division 2, 125 VDC battery E-B1-2 [EJ]. The Supply System declared SR 3.8.4.7 not met, then used the provision of SR 3.0.3 to delay taking compensatory measures required by TS Limiting Condition for Operation (LCO) 3.8.4, while enforcement discretion was pursued. The Supply System requested and received enforcement discretion from the Staff for completion of the battery service test of SR 3.8.4.7 for the division 2, 125 VDC battery E-B1-2.

SR 3.8.4.7 was not fully met because the battery discharge profile in the 60 month performance discharge surveillance procedure ESP-B12-F101 was not sufficient to meet the requirements specified in the TS Bases for SR 3.8.4.7. Note 1 of SR 3.8.4.7 permits the use of a "modified" performance discharge test to be performed in lieu of the battery service test once every 60 months. This was a change from previous TS (SR 4.8.2.1.e) which allowed the unmodified performance test to be performed in lieu of the battery service test once every 60 months. Surveillance procedure ESP-B12-F101 was not rewritten to incorporate the "modified" discharge profile prior to its use on April 30, 1997 to meet SR 3.8.4.7 in accordance with the note. The fact that the requirements of SR 3.8.4.7 had not been met was determined as a result of questions raised by an NRC inspector who was conducting an engineering inspection at the time. The inspector's questions resulted in the discovery of the inadequate battery surveillance procedure.

Immediate Corrective Action

The Supply System reviewed historical test data for the battery to determine if justification existed for continued reliance on the battery to perform its required safety function. Once this justification was established and the manufacturer's concurrence obtained, enforcement discretion was pursued. After enforcement discretion was granted, the Supply System submitted an exigent Technical Specification amendment request to allow the (unmodified) performance discharge test specified in SR 3.8.4.8 to be performed in lieu of the battery service test for the division 2, 125 VDC battery E-B1-2. It was requested this amendment remain in effect until entry into Operational Mode 4 (cold shutdown) for the R-14 maintenance and refueling outage or a forced outage of sufficient duration to perform the service test.

Additionally, a review of other surveillance procedures used to meet the conditions of station battery SRs was conducted. This review determined that the same situation existed for the division 1 and 3 125 VDC batteries and the division 1 250 VDC battery. However, the Frequency requirements of SR 3.0.2 have not been exceeded for performance of the service tests (SR 3.8.4.7) for these batteries. An amendment to TS was requested to avoid a TS noncompliance for these batteries as well.

Further Evaluation

The battery service test required by the 24 month SR 3.8.4.7 is a special test of the battery's as found capability to satisfy the design requirements (battery duty cycle) of the DC Electrical power system [EJ]. The test discharge rate and test length correspond to the design duty cycle requirements specified in the WNP-2 FSAR (Section 8.3.2).

The 60 month SR 3.8.4.8 is satisfied by performance of a battery performance discharge test or a modified battery performance discharge test.

A battery performance discharge test is an as found test of the constant current capacity of the battery intended to determine overall battery degradation due to age and usage. In this test, the battery is subjected to a constant discharge rate.

A modified battery performance discharge test is a combination of the two aforementioned tests and is considered a more severe test of battery capacity. It employs two discharge rates, a short duration discharge rate consistent with the largest current load of the duty cycle, followed by the discharge rate used in the battery performance discharge test. The test is intended to confirm the battery's ability to meet the critical period of the load duty cycle and determine its percentage of rated capacity. The discharge rate of the modified performance test envelopes the duty cycle of the service test described above.

Technical Specification SR 3.8.4.7 (Note 1) allows the modified performance discharge test of SR 3.8.4.8 to be performed in lieu of the 24 month battery service test once every 60 months in order to fulfill the requirements of SR 3.8.4.7 and SR 3.8.4.8 with the performance of one test in order to avoid excessive battery depletion. The provision of this note was not fully implemented the last time the surveillance was performed for the Division 2 125 VDC battery (April 1997) in that the test that was performed was the performance discharge test and not the modified performance discharge test.

Prior to the implementation of Improved Technical Specifications (ITS), the Technical Specifications allowed the performance test (vice the modified performance test) to satisfy the service test surveillance requirements once every 60 months.

Root Cause

The root cause for the noncompliance is that the work practices used to convert these specific battery procedures were inadequate to ensure that the modified performance test discharge profile was incorporated. The preparation, review, and approval activities of the individuals assigned to these procedures were not carried out in a manner that ensured all changes were incorporated. None of the individuals involved with the subject procedures ensured that a critical review of all the required changes, regardless of their characterization in the ITS change documents, was performed.

The performance discharge test was not revised adequately because of a failure to recognize that the requirements for crediting SR 3.8.4.7 with the performance discharge test of SR 3.8.4.8 was, in effect, a more restrictive requirement. This change was categorized as a less restrictive change in the ITS Discussion Of Changes (DOC) document. Additionally, the DOC incorrectly stated that a note to SR 3.8.4.7 would allow the performance discharge test to be substituted for the service test once every 60 months. Although the DOC incorrectly described the note, the ITS and the ITS Bases correctly describe the note as allowing only the modified performance discharge test to be performed in lieu of the service test once every 60 months.

Corrective Actions Taken

A training session was held with personnel responsible for incorporation of ITS requirements into the battery procedures. The objective of the training was to promote understanding of lessons learned from this event and to coach expectations for future performance when conducting procedure revision activities.

A review of the ITS changes required for battery LCOs 3.8.4, 3.8.5, and 3.8.6 was performed to identify any discrepancies to the implementing procedures. This review identified several less restrictive and administrative changes that were not implemented in the battery procedures. The procedures were subsequently revised to reflect the changes.

WNP-2 entered Mode 4 on August 8, 1998. During the ensuing forced outage, the battery service test was performed on the division 1, 2, and 3, 125 VDC batteries and the division 1, 250 VDC battery with satisfactory results. The performance of these tests established compliance with SR 3.8.4.7 for the current operating cycle negating the need for enforcement discretion or an amendment to the Technical Specifications.

The current revisions of the performance discharge test procedures have been deactivated until they are revised to incorporate the discharge profile required for the modified performance discharge test in order to prevent their use for crediting SR 3.8.4.7.

Further Corrective Action

To ensure other procedure reviewers maintained adequate attention to detail during ITS implementation, a self assessment of several LCO sections of TS will be conducted to determine if all details of the ITS changes were implemented by the appropriate surveillance procedures and TS Bases.

The performance discharge test procedures for all applicable batteries will be revised to incorporate the battery discharge profile required for the modified performance discharge test.

Assessment of Safety Consequences

The service test requires a discharge rate of 400 amps for the first six seconds then drops to less than 250 amps for a duration of two hours. The performance test requires a constant discharge of 350 amps for two hours. Therefore, a difference of 50 amps for the first six seconds is not enveloped by the performance test. The service test requirement of 400 amps is less than half of the manufacturer's one-minute discharge rating of the battery (922 amps). The performance test completed in April of 1997 demonstrated a battery capacity of 104.7% which is above the battery replacement criteria of 80% capacity. Additionally, the battery has been installed for less than five years and test data indicate an expected improving trend in battery capacity. Based on the substantial battery capacity demonstrated by the performance test and the short duration peak load required by the service test (400 amps) as compared to the one-minute rating of the battery (922 amps), the battery is fully capable of meeting the requirements of the modified performance test and the service test. Regularly performed surveillance activities of intercell connector resistance measurement, specific gravity, visual condition and battery terminal voltage indicate continued acceptable battery performance. The battery manufacturer has stated in writing that the difference between the performance discharge test and the modified performance discharge test is not significant relative to the battery capacity and its short duration discharge rate.

Based on this justification, historical test data, and results of the service test performed on August 11, 1998 it is the Supply System's position that even though SR 3.8.4.7 was not met, battery E-B1-2 has always been able to reliably perform its designed safety function. Therefore, there were no safety consequences resulting from this event.

Additional Information

Block 5 in the heading of Revision 00 of this LER contains an event date of July 16, 1998. This date is erroneous and incongruent with the event date of July 15, 1998 described in the abstract and narrative sections of the Revision 00 report. The heading has been corrected in this revision.

The requested Technical Specification amendments to SR 3.8.4.7 relative to this event have been withdrawn.

Similar Events

There have been no recent similar events.