

CATEGORY 1

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 FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
 AUTH. NAME AUTHOR AFFILIATION
 SCHILL, F.A. Washington Public Power Supply System
 BEMIS, P.R. Washington Public Power Supply System
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 98-012-00: on 980716, determined that 24-month SR 3.8.4.7
 had not been fulfilled within specified frequency. Caused by
 inadequate work practices. License requested & received
 enforcement discretion re battery svc test. W/980817 ltr.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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Docket No. 50-397

August 17, 1998
GO2-98-148

U.S. Nuclear Regulatory Commission
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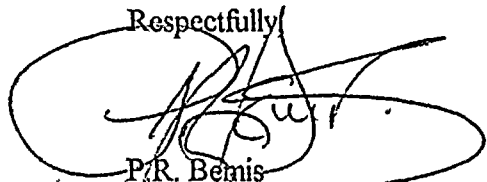
Subject: WNP-2, OPERATING LICENSE NPF-21
LICENSEE EVENT REPORT NO. 98-012-00

Reference: Letter GO2-98-125, JV Parrish (SS) to NRC, "Request for Enforcement Discretion for Technical Specification Surveillance Requirement 3.8.4.7," dated July 16, 1998.

Transmitted herewith is Licensee Event Report No. 98-012-00 for WNP-2. This report is submitted pursuant to 10 CFR 50.73 and discusses the items of reportability, corrective action taken, and action taken to preclude recurrence.

Should you have any questions or desire additional information pertaining to this report, please call me or P.J. Inserra at (509) 377-4147.

Respectfully,


P.R. Bemis
Vice-President, Nuclear Operations
Mail Drop PE23

Attachment

cc: EW Merschoff - NRC RIV
DF Kirsch - NRC RIV, WCFO
C Poslusny, Jr. - NRC NRR
PD Robinson - Winston & Strawn

NRC Senior Resident Inspector - 927N (2)
DL Williams - BPA1399
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2) 50-397	PAGE (3) 1 OF 5
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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	16	98	98	012	00	08	17	98	FACILITY NAME	DOCKET NUMBER

OPERATING	1	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)		
POWER	100	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)(vi)		OTHER		
		20.405(a)(1)(iii)		x 50.73(a)(2)(i)		50.73(a)(2)(vii)(A)				
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(vii)(B)				
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)				

LICENSEE CONTACT FOR THIS LER (12)

NAME F.A. Schill, Licensing Engineer	TELEPHONE NUMBER (Include Area Code) (509) 377-2269
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs

SUPPLEMENTAL REPORT EXPECTED (14)

YES <input checked="" type="checkbox"/> X (If yes, completed EXPECTED SUBMISSION DATE).	NO <input type="checkbox"/>	EXPECTED	MONTH	DAY	YEAR
			10	30	98

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 verbatim 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.

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		98	012	00	

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

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 3.8.4.8. 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 verbatim 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 an outage of sufficient duration to perform the service test and subsequent battery recovery.

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.



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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.

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Root Cause

The apparent 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 assigned individuals were not carried out in a manner that ensured all changes were incorporated. This was because the individuals involved did not perform a critical review of all required changes regardless of their characterization in the ITS change documents. The Discussion of Changes manual presented an ambiguous description of the changes required for the modified performance test and classified it as a less restrictive change. However, the TS Bases has always been very clear in its description of the modified performance test. In the course of the root cause analysis for this event, a generic review of all other battery SR procedures was conducted. The changes to this section of TS were numerous and complicated. Interviews with individuals involved in the ITS change process were conducted to determine the potential for other procedure conversions to have similar work practice deficiencies. Other procedural areas reviewed appear to have been changed with a higher level of attention to detail. The review determined that there were other instances of less restrictive changes which were inadequately incorporated, however none of these instances resulted in a noncompliance to TS. These procedure revision work practices resulted in the failure to fully reflect the changes enacted through the implementation of Improved Technical Specifications (ITS).

The formal root cause analysis for this event requires additional time to complete. The results of this root cause analysis will be contained in revision 01 to this LER which will be submitted by October 30, 1998.

Further Corrective Action

Battery surveillance procedures are being revised to correct inadequacies discovered as a result of the generic review conducted during the root cause analysis. The performance discharge test will be changed to prohibit their use for meeting the requirements of SR 3.8.4.7 until they are revised to incorporate the modified performance discharge test.

To ensure other ITS reviewers maintained adequate attention to detail, a self assessment of selected portions of the TS surveillance procedures will be conducted to determine if all details of the changes were addressed.

At the time of this report WNP-2 is in Mode 4 and presently in an operational condition which supports performance of the battery service test required by SR 3.8.4.7. The battery service test has been performed on the division 2 and 3 125 VDC and the division 1 250 VDC battery with satisfactory results. The remaining division 1 125 VDC battery will be tested prior to startup.

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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.

Similar Events

There have been no recent similar events.