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AUTH.NAME AUTHOR AFFILIATION
PARRISH,J.V. Washington Public Power Supply System
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SUBJECT: Application for exigent amend to license NPF-21,modifying TS SR 3.8.4.7 to allow performance discharge test to be performed in lieu of battery svc test for Div 2,125 VDC, battery E-B1-2.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM
P.O. Box 968 • Richland, Washington 99352-0968

July 17, 1998
GO2-98-128

Docket No. 50-397

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

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21, EXIGENT TECHNICAL SPECIFICATION AMENDMENT REQUEST TO TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENT 3.8.4.7**

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."

In accordance with the Code of Federal Regulations, Title 10, Parts 50.91(a)(6), 50.90, and 2.101, the Supply System hereby submits a request for amendment, under exigent circumstances, to the WNP-2 Technical Specifications. Specifically, the Supply System is requesting modification of Technical Specification Surveillance Requirement (SR) 3.8.4.7 to allow the performance discharge test to be performed in lieu of the battery service test for Division 2, 125 VDC, Battery E-B1-2. The Supply System determined that the verbatim requirements of SR 3.8.4.7 had not been fulfilled within the Frequency plus the allowed extension time specified in the Technical Specifications. At the time of this letter, WNP-2 is using the enforcement discretion granted to fulfill the requirement of SR 3.8.4.7.

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Approval of this Technical Specification change request will negate the need for continued enforcement discretion. The proposed change revises Note 1 to SR 3.8.4.7 to add a modifying footnote to allow the performance discharge test in SR 3.8.4.8 to be performed in lieu of the service test in SR 3.8.4.7 for battery E-B1-2 until SR 3.8.4.7 is performed during the R-14 refueling outage, or a forced outage of sufficient duration to perform the service test and accomplish the necessary post test battery recovery actions.

On July 15, 1998 the Supply System determined that the Frequency plus the allowed extension time had been exceeded for performance of the battery service test on Division 2, 125 VDC, Battery E-B1-2 in accordance with Surveillance Requirement 3.8.4.7. WNP-2 then used the provision of SR 3.0.3 to delay taking compensatory measures required by Technical Specification LCO 3.8.4 while enforcement discretion was being requested and granted.

Attachment 1 provides the basis for acceptability of the amendment request. Attachment 2 provides the Evaluation of Significant Hazards Consideration. Attachment 3 contains the Environmental Considerations evaluation. Attachment 4 contains the marked up page from Technical Specifications which, if approved, will be used to implement the modified SR and Attachment 5 contains the typed page as it would be revised by this amendment. The Supply System has concluded that the proposed change does not result in a significant hazards consideration or a significant increase in the amount or type of any effluent that may be released offsite.

The Technical Specification amendment request has been reviewed by the Plant Operations Committee and the Corporate Nuclear Safety Review Board.

Should you have any questions or desire additional information regarding this matter, please call me or Mr. PJ Inserra at (509) 377-4147.

Respectfully,

for JV Parrish
Chief Executive Officer
Mail Drop 1023

Attachments:

1. Basis for Technical Specification Amendment Request
2. Evaluation of Significant Hazards Consideration and
3. Evaluation of Environmental Considerations
4. Marked up Technical Specification page
5. Typed revised Technical Specification page

cc: EW Merschoff - NRC-RIV
DF Kirsch - NRC-RIV, WCFO
C Poslusny, Jr. - NRC-NRR
NRC Sr. Resident Inspector - 927N
DL Williams - 1399
PD Robinson - Winston & Strawn

STATE OF WASHINGTON)
)
COUNTY OF BENTON)

Subject: Request for Amendment of Tech Spec SR 3.8.4.7

I, P. R. BEMIS, being duly sworn, subscribe to and say that I am the Acting Chief Executive Officer for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein; that I have the full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information, and belief the statements made in it are true.

DATE 7/17/98, 1998

P. R. Bemis
Acting Chief Executive Officer

On this date personally appeared before me P. R. Bemis, to me known to be the individual who executed the foregoing instrument, and acknowledged that he signed the same as his free act and deed for the uses and purposes herein mentioned.

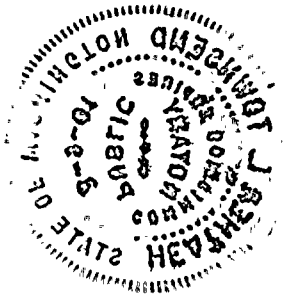
GIVEN under my hand and seal this 17 day of July 1998

Heather L Townsend
Notary Public in and for the
STATE OF WASHINGTON

HEATHER L. TOWNSEND NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 3-9-01

Residing at Franklin County

My Commission Expires 03.09.01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HEARINGS

BASIS FOR TECHNICAL SPECIFICATION AMENDMENT REQUEST

Background:

On July 15, 1998 the Supply System determined that the verbatim requirements of SR 3.8.4.7 had not been fulfilled within the Frequency plus the allowed extension time specified in the Technical Specifications. At the time of this letter, the Staff has exercised enforcement discretion from the requirements of SR 3.8.4.7 for battery E-B1-2.

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. 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. 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 rates envelope 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 one test. 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.

The apparent cause for the noncompliance is an inadequate surveillance procedure resulting from failure to fully reflect the changes enacted through the implementation of Improved Technical Specifications (ITS). Specifically, the performance discharge was not modified to incorporate the short duration discharge rate which corresponds to the largest current load of the duty cycle, prior to using it to satisfy SR 3.8.4.7.

Justification:

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 small compared to 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 surveillances include inspection of intercell connector resistance, specific gravity, visual condition and battery terminal voltage indicate continued acceptable battery performance. The manufacturer has been consulted and 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. As a compensatory measure, the Supply System will ensure that during performance of the 92 day battery surveillance test (SR 3.8.4.2) designed to detect conditions that can cause power loss due to resistance heating, that battery E-B1-2 connection resistance measurements will be performed in addition to the optional visual examination.

The following is a synopsis of test data gathered at WNP-2 for battery E-B1-2. Based on this justification and test data, it is the Supply System's position that battery E-BI-2 will perform reliably in the current operating cycle.

Battery E-B1-2 Test History

Model:	Exide 2GN-15
Manufactured:	1994
Installed:	1994

Performance Test summary (Battery Capacity);
Test data indicates continued acceptable battery capacity.

5/94	104.17%	(Acceptance Test performed at WNP-2)
5/97	104.7%	

Service Test Summary (Duty Cycle Loads);

Test data indicates acceptable margin over the required minimum battery terminal voltage of 105 VDC.

4/95	Initial Peak Voltage:	114.2 VDC@459 Amps
	Final Voltage:	111.0 VDC@279 Amps

Connection Resistance Summary:

From the test data recorded since installation, connections are acceptable and show no adverse trend.

Short Connectors:

5/94	6 to 8 micro-ohms
4/95	5 to 9 micro-ohms
5/96	5 to 7 micro-ohms
4/97	6 to 8 micro-ohms
4/98	6 to 8 micro-ohms

Long Connectors:

5/94	13 to 16 micro-ohms
4/95	13 to 15 micro-ohms
5/96	12 to 14 micro-ohms
4/97	13 to 15 micro-ohms
4/98	12 to 15 micro-ohms

The acceptance criteria for the connection resistance test is $\leq$ 24.4 micro-ohms

Evaluation of Significant Hazards Considerations

Summary of Proposed Change:

The Supply System has determined that the Frequency plus the allowed extension time has been exceeded for performance of the battery service test on Division 2, 125 VDC, Battery E-B1-2 in accordance with Surveillance Requirement (SR) 3.8.4.7. The Supply System is submitting an exigent request for a one time Technical Specification amendment to allow the performance test in SR 3.8.4.8 to be performed in lieu of the service test in SR 3.8.4.7 for Battery E-B1-2. It is proposed that this change remain in effect until SR 3.8.4.7 is performed during the R-14 refueling outage or an outage of sufficient duration to perform the SR 3.8.4.7 service test, whichever occurs first. The Supply System believes that it is more prudent to rely on the demonstrated capability of Battery E-B1-2 as opposed to requiring an unnecessary plant shutdown.

No significant Hazards Consideration Determination:

Washington Public Power Supply System has evaluated the proposed change using the criteria established in 10CFR50.92(c) and has determined that it does not represent a significant hazards consideration as described below.

The operation of WNP-2 in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated:

The safety function of the Battery E-B1-2 is to provide 125 VDC power to the Division 2 safety-related loads including; RCIC Turbine Exhaust Valve, CAC Isolation Valves, Diesel (DG-2) Engine Backup Lube and Fuel Oil Pumps, Critical Switchgear control power, Critical Instrument Power Supply Inverter, NSSS Instrument and Control Board power, and control power to the Remote Shutdown Panel. This establishes the Division 2, 125 VDC Power system as an accident mitigation system, and is not an individual precursor of an evaluated accident. Battery E-B1-2 has no role in the initiation of design basis accidents (DBAs) or transients identified in the FSAR.

The proposed change entails a one time relief from verbatim compliance with SR 3.8.4.7 by permitting the performance test in SR 3.8.4.8 to suffice for performance of the SR 3.8.4.7 service test. Improved Technical Specifications (ITS) SR 3.8.4.7 presently allows the 'modified' performance test in SR 3.8.4.8 to be performed in lieu of the service test in SR 3.8.4.7. The difference between the modified performance test short duration load of 400 amperes for six seconds and the performance test load of 350 amperes is small when compared to the 922 ampere one-minute rating of the battery. Testing at the levels defined in either situation provides a satisfactory battery performance demonstration. Additionally, documented test results since the date of manufacture (1994) of Battery E-B1-2 substantiate the battery's capability to perform its intended safety functions. 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. The performance test performed when the battery was new as part of acceptance testing in May of 1994 documented a capacity of 104.17%. Comparing the 1994 and 1997 performance test results indicates that the battery has not degraded during the 4 years since it was manufactured and installed. Based on the substantial battery capacity demonstrated by these performance tests 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.

Regular battery surveillances are routinely performed which include specific gravity and battery terminal voltage measurements. As a compensatory measure, in addition to the visual corrosion inspection, the Supply System will measure Battery E-B1-2 connection resistance on a 92 day interval and verify that the intercell connector resistance is ≤ 24.4 E-6 ohms. These surveillance measures will ensure that Battery E-B1-2 remains operable.

The probability of an evaluated accident is derived from the probabilities of the individual precursors to that accident. The consequences of an evaluated accident are determined by the operability of plant systems designed to mitigate those consequences. Since Battery E-B1-2 is operable and will remain in service, this action will not change the availability of any safety related equipment and no individual precursors of an accident are affected. Therefore, this change does not increase the probability of an accident previously evaluated. In addition, since the functions and capabilities of systems designed to mitigate the consequences of an accident have not changed, the consequences of an accident previously evaluated are not expected to increase. Therefore, there is no significant increase in the probability or consequence of an accident previously evaluated.

The operation of WNP-2 in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated:

The service test requires a discharge rate of 400 amps for the first six seconds and drops to less than 250 amps for a duration of two hours. The performance test requires a constant 350 amps throughout the test. 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 small compared to the manufacturer's one-minute discharge rating of the battery (922 amps). The 50 amperes for six seconds difference in the testing profiles of the SR 3.8.4.7 service test and the SR 3.8.4.8 performance test was confirmed by the manufacturer as insignificant relative to demonstration of the battery capacity and its short duration discharge rate.

Creation of the possibility of a new or different kind of accident would require the creation of one or more new precursors of that accident. New accident precursors may be created by modifications to the plant configuration. No modifications to plant configuration will result from this proposed one time surveillance test change. Documented test results demonstrate that Battery E-B1-2 is capable of performing its intended safety function. Since Battery E-B1-2 has not been modified and will remain in operation during Operational Modes 1, 2, and 3 as required by the Technical Specifications, no new failure modes of the 125 VDC Distribution System are introduced.

Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The operation of WNP-2 in accordance with the proposed amendment will not involve a significant reduction in the margin of safety for the following reasons:

The basis for the margin of safety for the Division 2, 125 VDC battery is the two hour operating time defined in the DC System design basis. Battery E-B1-2 is properly sized using the methodology prescribed in IEEE Standard 485-1983 and includes the emergency loads anticipated during a Loss of Coolant Accident (LOCA) with a coincident Loss of Offsite Power (LOOP), for two hours. Additionally, the battery is relatively new having been manufactured and installed in 1994 and is in the prime of its service life. The battery service test performed in April of 1995 documented 114.2 volts @ 459 amps (in-rush) and 111.0 volts @ 279.0 amps (120 mins.). This service test encompassed the safety-related two hour duty cycle and demonstrated that the battery is able to supply and maintain the operable status of all emergency loads for their respective duty times.

The performance test uses the manufacturer's two hour discharge rate and is used to establish baseline capacity for trending battery degradation. The modified performance draws approximately 700.1 ampere-hours and the performance test draws 700 ampere-hours. Both of these tests are more severe than the service test which, when corrected for temperature, draws approximately 413 amp-hours. Since the performance test done in April 1997 demonstrated a capacity of 104.7% (of 700 A-h) there is no decrease in the margin of safety when compared to the total amp-hour demands of the LOCA with LOOP duty cycle, (i.e., the service test).

Battery E-B1-2 will not be removed from service during plant operation. Therefore, there is no change in availability of the Division 2 125 VDC battery, charger, or distribution system, and as such, there is no change in the base assumptions of our PRA models. Thus there is no impact on the WNP-2 PSA. Therefore, this change will not involve a significant reduction in the margin of safety.

Environmental Assessment Applicability Review

Washington Public Power Supply System has evaluated the proposed amendment against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10CFR51.21. It has been determined that the proposed changes meet the criteria for categorical exclusion as provided for under 10CFR51.22(c)(9). This conclusion has been determined because the change requested does not pose a significant hazards considerations nor does it involve a significant increase in the amounts, or a significant change in the types of any effluent that may be released off-site. Additionally, this request does not involve a significant increase in individual or cumulative occupational radiation exposure.

EXIGENT TECHNICAL SPECIFICATION AMENDMENT REQUEST
TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENT 3.8.4.7
Attachment 4