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 SORESEN, G.C.      Washington Public Power Supply System  
 RECIP. NAME      RECIPIENT AFFILIATION  
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SUBJECT: Application for amend to License NPF-21, requestin DG test  
 schedule of Table 4.8.1.1.2-1 be revised, per GL 84-15.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

February 5, 1990  
G02-90-019

Docket No. 50-397

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

Gentlemen:

Subject: NUCLEAR PLANT NO. 2, OPERATING LICENSE NPF-21  
REQUEST FOR AMENDMENT TO TECHNICAL SPECIFICATION  
TABLE 4.8.1.1.2-1, DIESEL GENERATOR TEST  
SCHEDULE PER GENERIC LETTER 84-15

Reference: Letter, GC Sorensen (SS) to NRC, "Response to  
Station Blackout Rule", dated April 17, 1989

In accordance with the Code of Federal Regulations, Title 10 Parts 50.90 and 2.101, the Supply System hereby submits a request for amendment to the WNP-2 Technical Specifications. Specifically, the Supply System is requesting the diesel generator (DG) test schedule of Table 4.8.1.1.2-1 be revised consistent with that recommended in Generic Letter (GL) 84-15.

On July 2, 1984, the NRC issued Generic Letter 84-15 (Proposed Staff Action to Improve and Maintain Diesel Generator Reliability). This Generic Letter presented the conclusion that the frequency of diesel generator start surveillance tests should be reduced to prevent premature diesel engine degradation, and encouraged licensees to submit changes to their Technical Specifications to accomplish a reduction in the number of DG surveillance tests. The Staff provided an example surveillance testing frequency in proposed Table 4.8.1 - Diesel Generator Test Schedule, attached to the Generic Letter. This proposed example test frequency table has been approved by the NRC on many recent docket actions.

Diesel Generators are assumed to be available to respond to analyzed accidents. To ensure that DGs are capable to perform as they were designed, they must be tested on a routine basis. However, when the testing becomes excessive the tests themselves can lead to excessive wear and excessive periods when a DG is not in its normal standby ready status, and therefore, be a significant source of reduced reliability and availability. The proposed changes to the WNP-2 Technical Specifications provide for an increased number of valid test failures before increasing the test frequency, yet support, and are consistent with the Supply System DG target reliability goal of 0.95 (Reference). These changes are also consistent with the reliability goal stated in GL 84-15 and NUMARC 87-00.

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REQUEST FOR AMEND. TO TS TABLE 4.8.1.1.2-1  
DIESEL GENERATOR TEST SCHEDULE PER GL 84-15

The Supply System has made changes to improve the reliability and minimize mechanical stress and wear on the DGs. A slow start capability has been added so that the DGs can be started slowly and warmed up in accordance with the manufacturer's recommended procedures prior to loading. A recent design modification replaced coil relays with solid state relays in the voltage sensing/regulator circuitry and output breaker closing logic circuitry to improve the reliability of these circuits. And with the slow start capability described above, based on a state of the art electrical governor replacement, the governor control was changed to reverse acting so that on failure of the electrical governor the mechanical governor assumes control. In keeping with the goal to minimize mechanical stress and wear on the DGs the following changes are requested to further enhance DG reliability and availability.

The first proposed change is to view the reliability goal on a per-DG basis as opposed to a per-nuclear-unit-basis. The primary purpose is to avoid increased testing of all DGs due to failures experienced on only one DG, and to increase testing on a DG whose reliability may be degrading based on its performance rather than waiting for the overall facility reliability to decrease. This ensures that DGs experiencing failures receive attention and remedial actions sooner than those DGs with high reliability and that those with high reliability are not tested to excess.

The second change is to add test frequency criteria based on the number of failures in the last 20 valid tests. The test interval is proposed to be 31 days when less than or equal to 1 DG failure occurred in the last 20 valid tests. The 7 day test interval is proposed to be based on greater than 1 failure in the last 20 valid tests. This supports the above mentioned reliability goal of 0.95. Two failures in 20 demands is a failure rate of 0.1 which is at the threshold of acceptable diesel generator performance, and may be an early indication of degradation of the reliability of a DG. However, when considered in a long run of demands, two failures in the last 20 demands may only be a statistically probable distribution of two random events. Hence two failures invoke a 7 day test frequency until the reliability is proven to be greater than or equal to 0.95 and the 31 day test frequency can be resumed. Consistent with this, the criteria for increased testing based on the last 100 valid tests is changed to less than or equal to 4 failures for the 31 day interval, and greater than 4 failures for the 7 day interval. Again, this supports the 0.95 target reliability goal.

The next change is to delete the DG test frequency intervals of 14 days and 3 days invoked at 2 or 3 failures in 100 demands. Both of these represent failure rates more conservative than the target reliability goal of the Supply System, the Generic Letter, and NUMARC 87-00. As such they would cause excessive testing that is not justified. The 14 day test interval is not necessary due to the additional testing required on a 7 day interval if the failures exceed 1 in the last 20 valid starts. The 3 day test interval represents potentially excessive testing which could lead to premature DG degradation.



REQUEST FOR AMEND TO TS TABLE 4.8.1.1.2-1  
DIESEL GENERATOR TEST SCHEDULE PER GL 84-15

The final change will require that once two or more failures in the last 20 starts occur the 7 day test interval is required. Seven consecutive failure free valid tests will be required prior to returning to the 31 day test interval (in addition to meeting the other requirements for returning to the 31 day test interval). This maintains an acceptable level of reliability.

These revised test frequencies are in accordance with GL 84-15 (which includes the 20 valid test criteria based on a reliability goal of 0.95), and are consistent with recent changes approved on other dockets (i.e., Grand Gulf - 8/1/88).

The Supply System has evaluated this amendment request per 10CFR 50.92 and determined that it does not represent an unreviewed safety question or a significant hazard because it does not:

- 1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

The DGs are not assumed to be involved in the initiation of any accident previously analyzed. The requirements for DG operability, their mode of operation and design, remain unchanged by this amendment request such that the assumptions made in accident analyses for the DG response are maintained. Therefore this change, which affects only the frequency of routine testing of the DGs, can not involve an increase in the probability or consequences of an accident previously evaluated.

- 2) Create the possibility of a new or different kind of accident from any accident previously evaluated.

Since the DGs design, intended function and mode of operation remain unchanged, this request cannot create the possibility of a new and different kind of accident from any accident previously evaluated.

- 3) Involve a significant reduction in a margin of safety.

The NRC concluded in GL 84-15 that excessive testing results in degradation of DGs. Any potential adverse affect of reduced testing at a time when a DG failure may occur is judged to be offset by the improvement in reliability gained from reduced testing, and consistent with the GL 84-15 recommendation conclusions, these changes will not involve a significant reduction in a margin of safety.

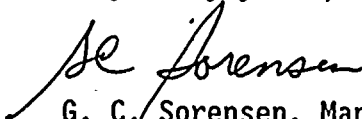
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DIESEL GENERATOR TEST SCHEDULE PER GL 84-15

As discussed above, the Supply System considers that this change does not involve a significant hazards consideration, nor is there a potential for significant change in the types or significant increase in the amount of any effluents that may be released offsite, nor does it involve a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10CFR 51.22(c)(9) and therefore, per 10CFR 51.22(b), an environmental assessment of the change is not required.

This Technical Specification change has been reviewed and approved by the WNP-2 Plant Operations Committee (POC) and the Supply System Corporate Nuclear Safety Review Board (CNSRB). In accordance with 10CFR 50.91, the State of Washington has been provided a copy of this letter.

Very truly yours,



G. C. Sorensen, Manager  
Regulatory Programs

PLP/bk  
Attachments

cc: JB Martin - NRC RV  
NS Reynolds - BCP&R  
RB Samworth - NRC  
DL Williams - BPA/399  
NRC Site Inspector - 901A  
C Eschels - EFSEC





STATE OF WASHINGTON )  
COUNTY OF BENTON )

Request for Amend to TS 4.8.1.1.2-1  
Subject: DG Test Schedule

I, G. C. SORENSEN, being duly sworn, subscribe to and say that I am the Manager, Regulatory Programs, for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein; that I have 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 5 FEB, 1990

G. C. Sorensen  
G. C. SORENSEN, Manager  
Regulatory Programs

On this day personally appeared before me G. C. SORENSEN 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 5th day of February, 1990.

Bonnie Kerkio  
Notary Public in and for the  
State of Washington

Residing at Kennebec, Wa

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