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SUBJECT: Forwards response to GL 96-05, re "Periodic verification of design-basis capability of safety-related motor-operated valves."

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • Richland, Washington 99352-0968

March 13, 1997
GO2-97-050

Docket No. 50-397

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

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NO. NPF-21
180-DAY REQUIRED RESPONSE TO GENERIC LETTER 96-05,
"PERIODIC VERIFICATION OF DESIGN-BASIS CAPABILITY OF
SAFETY-RELATED MOTOR-OPERATED VALVES"**

- References:
- 1) NRC Generic Letter 96-05 (GI2-96-231), dated September 18, 1996, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves"
 - 2) Letter GO2-96-222, dated November 7, 1996, JV Parrish (SS) to NRC, "60-Day Required Response to Generic Letter 96-05, Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves"

The Supply System hereby provides the required 180-day response to Generic Letter 96-05, including the requested written summary description of the WNP-2 Motor Operated Valve (MOV) Periodic Verification Program.

In the generic letter, the NRC staff requested that each addressee establish a program, or ensure the effectiveness of the current program, by verifying on a periodic basis that safety-related MOVs continue to be capable of performing their safety functions within the current licensing bases of the facility. The generic letter stated that the program should ensure that changes in required MOV performance resulting from degradation (such as those caused by age) can be properly identified and accounted for. It was also stated that addressees that have developed periodic verification programs in response to Generic Letter 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance," should review those programs to determine whether any changes are appropriate in light of the information in this generic letter.

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180-DAY REQUIRED RESPONSE TO GENERIC LETTER 96-05

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As noted in the 60-day response to Generic Letter 96-05 (see Reference 2), the Supply System currently has a periodic verification program that was developed in response to Generic Letter 89-10. Therefore, consistent with the provisions of Generic Letter 96-05, the Supply System will implement the requested actions that are applicable to plants with a current periodic verification program. These actions are intended to update and enhance the existing program and ensure its effectiveness.

The Supply System is a current participant in the Joint Owners Group (JOG) sponsored program to develop a MOV Periodic Verification Program. The JOG program will collect the necessary data to ensure that long term age related degradation of MOVs can be accounted for in the WNP-2 Periodic Verification Program. As part of the data gathering effort in support of the JOG program, participating utilities will be required to perform static and dynamic differential pressure testing during a five year period. The valves selected by the JOG will be tested in lieu of those valves currently designated for differential pressure testing in the WNP-2 Periodic Verification Program. The JOG has submitted Topical Report NEDC-32719, "BWR Owners Group Program on Motor-Operated Valve (MOV) Periodic Verification," to the NRC in March of this year.

Attached is a summary description of the current WNP-2 MOV Periodic Verification Program, as well as a discussion of anticipated changes to be made to the program to ensure conformance with the guidelines in Generic Letter 96-05 and the JOG Topical Report. As noted in Reference 2, the Supply System will revise the current MOV Periodic Verification Program by September 18, 1997. This revision will adjust the WNP-2 MOV Periodic Verification Program based on the guidance provided in Generic Letter 96-05 and the JOG Topical Report. In addition, the WNP-2 Periodic Verification Program will be adjusted, as necessary, based on the review of applicable lessons learned from the JOG MOV Periodic Verification Program, and the NRC issued Safety Evaluation Report for the JOG Topical Report.

Should you have any questions or desire additional information regarding this matter, please call me or Ms. L. C. Fernandez at (509) 377-4147.

Respectfully,



J. V. Parrish
Chief Executive Officer
Mail Drop 1023

Attachment

cc: EW Merschoff - NRC RIV
KE Perkins, Jr. - NRC RIV, WCFO
TG Colburn - NRR


NRC Resident Inspector - 927N
DL Williams - BPA/399
NS Reynolds - Winston & Strawn

STATE OF WASHINGTON)
COUNTY OF BENTON)

Subject: 180-Day Required Response to Generic
Letter 96-05

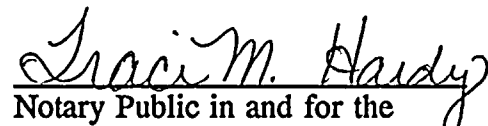
I, J. V. PARRISH, being duly sworn, subscribe to and say that I am the Chief Executive Officer for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein; that I have the full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information,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

DATE 13 March, 1997


J. V. Parrish
Chief Executive Officer

On this date personally appeared before me J. V. PARRISH, 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 13th day of March 1997.


Notary Public in and for the
STATE OF WASHINGTON

Residing at Kennelworth

My Commission Expires Aug. 9, 1999



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The current WNP-2 Periodic Verification Program has been in place since January 1996. This program was developed to ensure that MOVs will function as required within the current licensing basis of WNP-2. All WNP-2 MOVs are expected to operate each time they are required to function. This program provides added assurance that the MOVs will function throughout the life of the facility. The WNP-2 Periodic Verification Program was developed in response to Generic Letter 89-10 and has been used as an interim program in recognition that the NRC would be issuing a separate generic letter for MOV periodic verification. The current program includes all Generic Letter 89-10 MOVs with test frequency based on both deterministic and probabilistic methods. A test matrix is included which defines the test frequency and next scheduled test date for each MOV included in the program. The program also includes a table describing the test frequency basis.

The WNP-2 Periodic Verification Program uses static diagnostic testing of the MOV actuator to verify that actuator output is within acceptable limits. Each MOV has been categorized from a Probabilistic Safety Assessment (PSA) perspective, in accordance with BWR Owners Group Topical Report NEDC-32264-A, as having a high, medium or low safety risk. Each of the valves was also reviewed by an expert panel where adjustments were made to the PSA established categories. Of the 140 valves in the Generic Letter 89-10 program, 19 are in the high category and 20 are in the medium category. Each MOV has also been reviewed from a deterministic perspective by reviewing its maintenance and test history. A margin for each valve has been calculated which is used in determining test frequency. The current test frequency varies from 3 to 12 years.

The WNP-2 Periodic Verification Program is augmented by other plant programs which relate to the overall program for MOVs. A preventative maintenance (PM) program is proceduralized to ensure important valve functions are checked. In addition, each valve is stroke time tested as part of the ASME pump and valve test program.

As previously noted, the Supply System will issue a revision to the current MOV Periodic Verification Program by September 18, 1997. The revision will be based on guidance provided in Generic Letter 96-05 and the JOG Topical Report. The WNP-2 program will also reference the JOG testing guidelines for collecting static and dynamic test data for long term degradation rate determination. WNP-2 will test those valves selected by the JOG for the five year test period, and may make further adjustments to the periodic verification program based on the results of the five year test program. Though subject to change, it is anticipated that some of the more significant changes to the present program will be made in the following areas:

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- 1) **Program Scope** - The scope of valves addressed by the WNP-2 Periodic Verification Program will be revised to include safety-related MOVs that are assumed to be capable of returning to their safety position (test return valves) when placed in a position that prevents their safety system (or train) from performing its safety function. These test return valves will be diagnostically tested after major maintenance and will be exercised during plant surveillances. The periodic verification test for these valves will be the surveillance test performed per the Inservice Testing Program.
- 2) **Test Frequency** - The test frequency of all valves in the periodic verification program will be the same as that specified by the JOG program. The maximum length of time between tests will be ten years, with the time between tests ranging from 2 to 10 years. It is noted that the test frequency normally exceeds 5 years. This is judged to be acceptable based on the specific deterministic and probabalistic review conducted on each valve in the program.
- 3) **As-Found Testing** - As-found testing will be performed when practical. As-left testing will be performed when preventive or corrective maintenance is scheduled on the valve or actuator. As-found testing results will be evaluated and analyzed. The results of as-found testing which may affect actuator capability will be evaluated with the results applied to other WNP-2 valves as applicable.
- 4) **EPRI MOV Performance Prediction Methodology** - The Supply System has used the results of the EPRI Performance Prediction Methodology to ensure that margin existed for certain Generic Letter 89-10 MOVs tested without a differential pressure present. The EPRI analysis will also be used in the WNP-2 Periodic Verification Program.
- 5) **Diagnostic Systems** - WNP-2 currently tests all Generic Letter 89-10 MOVs using diagnostic test equipment which measures thrust and or torque at the valve. The industry is making progress in developing diagnostic systems which measure voltage and current at the motor control center which can be directly correlated to closing force. WNP-2 will likely implement such a system when the accuracy and limitations have been validated and documented. As the JOG results are reviewed it is expected that it can be demonstrated that alternate test methods may be acceptable for certain MOVs.
- 6) **ASME Code Case OMN-1** - At this time the Supply System is not planning to implement ASME Code Case OMN-1. The ASME O&M surveillance program will be maintained as currently implemented at WNP-2. Many of the aspects of OMN-1 have been factored into the Periodic Verification Program. The Code Case may be considered for implementation in whole or in part at a later date.