

D890509

The Honorable Lando W. Zech, Jr.
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Zech:

SUBJECT: GENERIC LETTER ON SAFETY-RELATED MOTOR-OPERATED VALVE TESTING AND SURVEILLANCE

During the 349th meeting of the Advisory Committee on Reactor Safeguards, May 3-6, 1989, we discussed the subject generic letter. This matter was also considered during our meetings on September 8-10, 1988, October 6-8, 1988, and April 6-8, 1989. Our Subcommittee on Mechanical Components discussed this issue during several recent meetings, including one on May 3, 1989. During these meetings, we had the benefit of discussions with representatives of the NRC staff and its consultants and the Nuclear Management and Resources Council. We also had the benefit of the document referenced.

We have been following the NRC staff's activities concerning the industrywide problem of deficient performance of safety-related motor-operated valves (MOV) for several years and have held numerous meetings to discuss this issue. We consider the apparent unreliability of such valves and the potential inability of some valves to function under design-basis conditions to be a significant safety issue of high priority. Further, we are concerned that the stroke-timing test prescribed by the regulations is not a valid test of valve operability under design-basis conditions. This is a test that consists of stroking the valve open and closed, usually without flow or elevated pressure, and measuring the stroke time.

Because of similar concerns, the staff issued Bulletin 85-03, which required a special operability assurance program for certain MOVs in two high-pressure safety systems (i.e., high-pressure injection and auxiliary feedwater systems). This program was to ensure that the switch settings for the motor operators on these valves would be selected, set, and maintained so that the valves will be capable of performing their intended design-basis functions for the life of the plant.

The staff is now preparing to issue a generic letter to extend the scope of Bulletin 85-03 to all safety-related and position-changeable MOVs. It also suggests that other MOVs in the balance of plant be considered for inclusion, commensurate with the licensee's assessment of their importance to safety.

We concur with the need for and scope of the proposed generic letter in order to formalize a program to deal with this problem. However, we believe that it should be revised to incorporate the following recommendations:

1. The matter of MOV testing and surveillance should be approached in two stages. For the first stage, each licensee should perform a review and develop documentation of the existing approved design basis governing the selection of each MOV and establish the "correct" MOV switch set-

tings using the best available data and calculational methods. The in-plant MOV settings should be changed to the selected values and the design-basis operability demonstrated, to the extent practical, using in situ tests and state-of-the-art testing procedures, extrapolation techniques, and diagnostic equipment.

For the second stage, each licensee should complete its program for demonstrating the operability of each MOV by testing under design-basis conditions (preferably reflecting current regulatory requirements as noted in item 2 below) or by using an acceptable alternative. This may require extensive out-of-plant prototype testing and analysis.

2. Although no change in the existing plant design basis is intended by the generic letter, we recommend that each licensee be reminded to review the design basis governing the selection of each MOV from the viewpoint of completeness and adequacy in light of current regulatory requirements. In the meantime, and to the extent possible, current requirements should be reflected in selecting MOV switch settings and demonstrating operability.
3. The present draft of the generic letter appears to permit alternatives to in situ design-basis testing only if it is precluded by the existing plant configuration. We consider this requirement to be too restrictive and recommend that reasonable alternatives be permitted at the option of the licensee even if in situ testing is possible.
4. The generic letter does not clearly state the circumstances under which a demonstration of operability under design-basis conditions might need to be repeated in the future (e.g., after a major maintenance or modification is performed). We believe that this needs to be clarified.

Our intention in recommending a two-stage approach is to encourage an early implementation of the immediately achievable portions of the generic letter while work proceeds on a reasonable schedule to develop the required calculational and testing capabilities and to complete the tests required to achieve full implementation. We believe that a two-stage approach will ensure a more orderly achievement of the objectives of the generic letter.

Priority consideration should be given in both stages to those MOVs that the licensee considers to have the greatest impact on plant safety.

Sincerely,

Forrest J. Remick
Chairman

Reference:

Letter dated April 26, 1989 from E. S. Beckjord, Office of Nuclear Regulatory Research, to T. E. Murley, Office of Nuclear Reactor Regulation, Subject: Transmittal of Generic Letter on Motor-Operated Valve Testing and Surveillance

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