



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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Files

MEMORANDUM FOR: James A. Norberg, Chief
Mechanical Engineering Branch, DE

FROM: Edmund J. Sullivan, Jr., Section Chief
Pumps and Valves Section
Mechanical Engineering Branch, DE

SUBJECT: MINUTES OF PUBLIC MEETING ON DECEMBER 3, 1992, TO DISCUSS
THE MOV PERFORMANCE PREDICTION PROGRAM BY EPRI

On December 3, 1992, the NRC staff held a public meeting with representatives of the Electric Power Research Institute (EPRI) and the Nuclear Management and Resources Council (NUMARC) to discuss the response of EPRI to NRC staff comments on the Motor-Operated Valve (MOV) Performance Prediction Program being conducted by EPRI. The staff comments on the EPRI program (including comments from previous meetings) were documented in a memorandum to you dated October 28, 1992, following a meeting with EPRI and NUMARC on October 8 and 9, 1992. Enclosure 1 is a letter dated November 30, 1992, from NUMARC containing EPRI's response to the staff comments. Enclosure 2 contains a status of the staff's comments on the EPRI program, including new comments based on information provided at the December 3 meeting.

A significant issue discussed at the December 3 meeting involves EPRI's intent to provide licensees with a method to use data from static tests (zero pressure, differential pressure, and flow) in applying the MOV Performance Prediction Methodology to MOVs installed in nuclear plants. EPRI has stated that it plans to base the applicability of its methodology on physical parameters and flow conditions. Without performance-based acceptance criteria, a licensee will need to demonstrate that the EPRI methodology is applicable to a particular MOV based only on an assessment of characteristic design features. At the December 3 meeting, EPRI committed to provide the staff with the acceptance criteria for applying its methodology.

Differential pressure, flow and rejection forces are not exerted on the valve stem and disk during testing under static conditions. Therefore, tests under static conditions do not provide correlatable information on MOV performance resulting from load sensitive behavior under design-basis conditions. At the December 3 meeting, EPRI stated that it planned to measure the stem friction coefficient from the time the valve begins to seat until final wedging. In Enclosure 2, the staff provides several comments and questions on EPRI's plans for measuring stem friction coefficient.

At the October 8 and 9 meeting, the staff stated that EPRI should expand its methodology to allow licensees to use pressurized static or dynamic test data in applying the methodology to minimize the margin needed to account for uncertainties. In the November 30 letter from NUMARC, EPRI states that it is developing procedures to allow the use of such test data. However, the staff is uncertain whether EPRI will develop sufficient guidance to allow licensees to reduce the amount of margin that may be necessary for applying the EPRI

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methodology. The staff believes that flexibility in applying the methodology will be necessary because of the significant amount of margin that might be mandated where a particular MOV is being tested only under static conditions. The staff will continue to discuss this matter with NUMARC and EPRI.

Over the time since this program was initiated, EPRI has modified its overall MOV test matrix and environmental conditions to reduce the number of valves to be tested at flow loop facilities and to increase the number of valves to be tested in-situ at nuclear plants as part of the EPRI program. The staff is concerned that the reduced range of test conditions available during in-situ testing at nuclear plants will validate the EPRI methodology for a smaller population of MOVs currently installed in nuclear plants. Licensees relying on the EPRI program for MOVs that cannot be tested under design-basis conditions may need to obtain test data from other sources (such as other nuclear plants or prototype testing) to fulfill their commitments to Generic Letter (GL) 89-10. At the December 3 meeting, EPRI stated that it would provide information to the staff on the scope of its program in comparison to the total population of safety-related MOVs in nuclear plants.

EPRI will not be testing each type and size of MOV currently installed in nuclear plants. Even though EPRI might not test a particular type and size of MOV, EPRI stated at the December 3 meeting that licensees would be allowed to apply the EPRI methodology to that MOV unless specific information disqualifies that MOV from application of the methodology. EPRI is relying on licensees to identify valves that do not perform as predicted by the EPRI methodology. Therefore, licensees will need to record test data and dimensional information in a manner that can be compared to the EPRI methodology. At the December 3 meeting, NUMARC stated that it is working with the industry in an effort to develop a test database for sharing information between licensees. The staff will continue to discuss with NUMARC the need for an industry-wide test database.

At the December 3 meeting, EPRI stated that its program is not intended to address the effects of aging on MOV performance. Consequently, the EPRI program might not provide assistance to licensees in meeting their commitments to periodically verify the design-basis capability of their safety-related MOVs in response to GL 89-10. The staff agrees that the EPRI MOV Performance Prediction Program might not be the most appropriate manner in which to address this safety significant issue. The staff will initiate discussions with NUMARC on the industry's consideration of aging effects on MOV performance.

NUMARC has proposed that the EPRI methodology be submitted in the form of a topical report for review and approval by the NRC staff. During the October 1992 meeting, NUMARC requested that the staff assist them in determining whether the review of the report will be fee recoverable. The staff has provided guidance to NUMARC so that they can submit the required information to make this determination.

J. A. Norberg

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Enclosure 3 is a list of the attendees of the meeting on December 3, 1992.

ORIGINAL SIGNED
EDMUND J. SULLIVAN

Edmund J. Sullivan, Jr., Chief
Pumps and Valves Section
Mechanical Engineering Branch, DE

Enclosures:
As stated

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