



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

May 19, 1992

Docket No. 50-341

Mr. William Orser  
Senior Vice President -  
Nuclear Operations  
Detroit Edison Company  
6400 North Dixie Highway  
Newport, Michigan 48166

Dear Mr. Orser:

SUBJECT: GENERIC LETTER (GL) 89-10 SUPPLEMENT 3 "CONSIDERATION OF NRC  
SPONSORED TESTS OF MOVs (MPA B-116) - FERMI 2 (TAC NO. M77775)

By letter dated December 10, 1990, and March 8, 1991, you provided information responding to GL 89-10, Supplement 3. You further responded to the NRC staff's requests for additional information related to that subject by letter dated August 26, 1991. An inspection of your program in response to GL 89-10 was conducted on July 15 through August 13, 1991 (Inspection Report 50-341/91016). Based on the information provided in your submittals and the results of the NRC staff inspection, the NRC staff considers High Pressure Coolant Injection (HPCI) motor-operated valve (MOV) F003 to be marginal with respect to its capability to perform its design basis function to isolate the containment in the event of a pipe break downstream of the valve. By this, we mean that under favorable conditions (e.g., properly maintained and well lubricated actuator and stem, and no significant rate-of-loading effects) the MOV would most likely be able to perform its intended function. However, under less than favorable conditions (such as degraded voltage) it may not. We are also concerned regarding five other MOVs applicable to Supplement 3 because their capability was evaluated using diagnostic equipment which could underestimate the thrust that would be delivered by the motor actuator under design-basis conditions. Further, your August 26 submittal indicated that the diagnostic traces of reactor water clean up (RWCU) MOV F004 suggested a possible drive sleeve problem with excessive friction and that this MOV is scheduled for internal inspection at the next outage (September 1992). We agree with your plan to inspect this valve and understand that you would follow any actions or reporting requirements dictated by your GL 89-10 program and Technical Specifications. We request that you develop a plan and schedule for addressing the above concerns and verifying the true capability of the MOVs within the scope of Supplement 3 on a priority basis (within 90 days) as part of your GL 89-10 program. We also request that you notify us when the plan and schedule are available for NRC review.

Among the aspects that you should address are (1) the structural limits of each MOV in light of the increased thrust and torque requirements based on industry experience and research testing, (2) the reduction in thrust delivered by the actuator that may occur as a result of the "rate of loading" phenomenon, (3) the reduction of motor output that may occur as a result of high ambient temperature, (4) the capability of the valves to satisfy any leakage limits associated with your safety analyses when closing under design

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basis conditions (particularly where the torque switch is set assuming low valve factors, but is bypassed for a significant portion of valve stroke), (5) justification for the assumed stem friction coefficient, (6) justification for the assumed differential pressure under which the MOVs may be called upon to operate in light of the intent of GL 89-10, (7) the inaccuracy of MOV diagnostic equipment in measuring delivered torque or thrust, (8) the assumed minimum voltage available to the motor as compared to licensing commitments and (9) the closing stroke time under design basis conditions in relation to technical specifications or safety analyses (particularly for dc motors). In addition to your own MOV tests, you are expected to monitor the MOV tests performed by other organizations for information on the torque and thrust required to operate your valves under design basis conditions. You are expected to take action to ensure MOV operability where those tests raise questions regarding the required torque and thrust estimates. With respect to the review of the NRC-sponsored MOV tests by the Electrical Power Research Institute (EPRI), the NRC staff agrees with the evaluation by the Idaho National Engineering Laboratory (INEL) provided in EGG-SSRE-9926 (November 12, 1991), "Evaluation of EPRI Draft Report NP-9926 - Review of NRC/INEL Gate Valve Test Program."

During future inspections of the GL 89-10 program, the staff will review your assumptions and calculations for MOVs within the scope of Supplement 3 and the original Generic Letter.

The recordkeeping and/or reporting requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511. If you have any questions, please contact me at (301) 504-1341.

Sincerely,

Original signed by  
Timothy G. Colburn, Sr. Project Manager  
Project Directorate III-1  
Division of Reactor Project III, IV, V

cc: See next page

\*SEE PREVIOUS CONCURRENCE\*

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Mr. William Orser  
Detroit Edison Company

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