UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

May 14, 1999

Dr. William D. Travers
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Dr. Travers:

SUBJECT: PROPOSED RESOLUTION OF GENERIC SAFETY ISSUE-158, "PERFORMANCE OF SAFETY-RELATED POWER-OPERATED VALVES UNDER DESIGN BASIS CONDITIONS"

During the 462nd meeting of the Advisory Committee on Reactor Safeguards, May 5-8, 1999, we reviewed the proposed resolution of Generic Safety Issue-158 (GSI-158), "Performance of Safety-Related Power-Operated Valves Under Design Basis Conditions." During our review, we had the benefit of discussions with representatives of the NRC staff. We also had the benefit of the document referenced.

Recommendation

We recommend that GSI-158 not be considered resolved. The central issue, whether power-operated valves (POVs) are able to perform their intended functions under design basis dynamic conditions, has not been adequately addressed.

Discussion

The NRC staff recommended closure of GSI-158 based on the results of the analysis performed by the Idaho National Engineering and Environmental Laboratory (INEEL) that revealed that the potential reduction in risk from an improvement in the reliability of POVs will neither result in a substantial safety improvement nor be cost effective. The failure probabilities used in the analysis, however, were based on data reported by licensees for normal operating conditions. The staff did not demonstrate that there are sufficient data or analytical models to establish POV failure probabilities under design basis conditions. Therefore, the results of the INEEL analysis do not provide adequate justification for resolving GSI-158.

The central issue of whether POVs will perform their intended functions under design basis dynamic conditions has not been adequately addressed. Based on a review of POV testing at seven sites, the NRC staff concluded that most licensees were not performing dynamic testing or evaluating whether the static testing performed was indicative of POV performance under

dynamic conditions. This indicates that current programs and existing requirements are not sufficient to ensure a systematic evaluation and resolution of GSI-158.

The NRC staff is relying on the Maintenance Rule to ensure that risk-significant valves are properly installed and maintained. The staff stated that there are industry initiatives to address issues associated with POVs. We are concerned that unless the staff undertakes a proactive effort to ensure resolution of this issue, the industry initiative will remain an optional, voluntary program that will not fully address the concerns of GSI-158. We plan to continue our discussion with the staff regarding the resolution of our concerns.

Sincerely,

Dana A. Powers
Chairman

Reference:
Memorandum dated April 5, 1999, from John W. Craig, Office of Nuclear Regulatory Research, to John T. Larkins, ACRS, Subject: Resolution of Generic Safety Issue 158, "Performance of Safety-Related Power-Operated Valves Under Design Basis Conditions."