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

Dear Chairman Zech:

SUBJECT: RESOLUTION OF GENERIC ISSUE 43, "AIR SYSTEMS RELIABILITY"

During the 345th meeting of the Advisory Committee on Reactor Safeguards, January 12-14, 1989, we discussed the resolution of Generic Issue 43, as described in the memorandum from E. Beckjord to V. Stello, dated September 30, 1988. Our Subcommittee on Auxiliary and Secondary Systems also discussed this matter during a meeting on January 11, 1989. During these meetings, we had the benefit of discussions with representatives of the Office for Analysis and Evaluation of Operational Data, the Office of Nuclear Regulatory Research, and the Office of Nuclear Reactor Regulation, as well as with NRC staff consultants. We also had the benefit of the documents referenced.

The instrument air (IA) system commonly is classified as a non-safety system even though it may be the sole source of IA to many safety-related components. The justification for a non-safety classification is that the safety-related components it serves are designed to fail to a safe state if the air pressure is lost. The design and testing of IA systems assume that the loss of air pressure will be instantaneous. Operating experience has shown that gradual loss of air pressure is possible and that, under these conditions, certain components supplied with air by the IA system may behave differently than expected. This constitutes an unreviewed safety issue.

The NRC staff has told us that the gradual loss of air pressure is not addressed in the resolution of Generic Issue 43. More specifically, the staff stated that requirement (3) in Generic Letter 88-14 does not require verification of proper operation of air-operated safety-related components under this condition. Although some studies made by staff contractors suggest that the potential for multiple common-cause failures as a result of improper IA system performance is not a significant contributor to risk for many plants, these results have not convinced us that this finding is correct or can be extended to all plants, which would seem to be a logical requirement if a generic issue is to be resolved.

In view of the above discussion, we do not consider the resolution of Generic Issue 43 as adequate. We support what has been proposed or done by the staff and the industry as described in the resolution package for Generic Issue 43, but further work is needed to show that the gradual loss of air pressure issue is not a safety problem for any plant.

Sincerely,

Forrest J. Remick
Chairman

References

1. Memorandum from Eric S. Beckjord, Director, Office of Nuclear Regulatory Research, to Victor Stello, Jr., Executive Director for Operations, "Resolution of Generic Issue 43, Air Systems Reliability," September 30, 1988
2. Generic Letter 88-14, "Instrument Air Supply System Problems Affecting Safety-Related Equipment," August 8, 1988
3. NRC Information Notice No. 87-28, "Air Systems Problems at U.S. Light Water Reactors," June 22, 1987
4. NRC Information Notice No. 87-28, Supplement 1, "Air Systems Problems at U.S. Light Water Reactors," December 28, 1987
5. Office for Analysis and Evaluation of Operational Data, U.S. Nuclear Regulatory Commission, "Operating Experience Feedback Report - Air Systems Problems," NUREG-1275, Volume 2, December 1987
6. Results of the Instrument Air Reliability Program Performed by the Brookhaven National Laboratory and the Science Applications International Corporation (SAIC), presented to the ACRS Subcommittee on Auxiliary and Secondary Systems on January 11, 1989 by Ernest V. Lofgren (SAIC)

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