D870915

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

Dear Chairman Zech:

SUBJECT: ACRS COMMENTS ON IMPROVED SAFETY FOR FUTURE LIGHT WATER REACTORS

During the 329th meeting of the ACRS, September 10-12, 1987, we discussed two requests transmitted in the memorandum from John C. Hoyle, Assistant Secretary, NRC, to Raymond F. Fraley, Executive Director, ACRS, dated April 22, 1987 (see Reference). The ACRS Subcommittee on Future Light Water Reactor Designs had previously discussed these requests during a meeting on September 9, 1987.

The first request was that "the ACRS pursue its review of the experience and design features of some of the European plants." We intend to continue such a review and will keep the Commission informed of our findings as appropriate.

The second request was that the ACRS "address the feasibility, benefit, and cost effectiveness of selected and combined systems recommended in the Kerr to Chairman Zech letter dated January 15, 1987. The review should include plant reliability, challenges, complexity, and burden on plant and maintenance personnel." We believe that such a study clearly is desirable. However, it would require consideration of many aspects of design other than safety and is beyond our capabilities and resources. For these reasons, it is more appropriate as a task for the NRC Staff or a contractor.

We would be pleased to discuss this with you further.

Additional comments by ACRS Member Glenn A. Reed are presented on the following page.

Sincerely,

William Kerr
Chairman

Additional Comments by ACRS Member Glenn A. Reed

As you know, both the General Electric Company and Westinghouse Electric Corporation have stated that their advanced LWR designs (on the drawing boards) do indeed incorporate most or all of the features mentioned in the ACRS letter of January 15, 1987. As should be realized, there's a long path

between the drawing board and a built operating reactor, and therefore I recommend that the NRC sponsor an in-depth study as a follow-on to USI TAP A-45 that addresses the most important recommendation of the ACRS January 15, 1987 letter, the recommendation on a dedicated decay heat removal system. The follow-on study should address decay heat removal for future LWRs and the systems, diversity of systems, redundancy of components, and the other complex safety influencing aspects such as security and fire. The operating reactor KONVOI should not be excluded from the study. It is my opinion that an in-depth study may reveal cost savings and improved operating and emergency potential for future LWRs. In particular, I feel that the use of a backup primary blowdown (dedicated) depressurization and decay heat removal system for PWRs will provide improved operations, less operating burden, fewer security demands, and reduced core melt probability.

Reference:

Memorandum dated April 22, 1987 to Raymond F. Fraley, ACRS, from John C. Hoyle, Assistant Secretary, Subject: Staff Requirements - Periodic Meeting with Advisory Committee on Reactor Safeguards

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