

ACRSR-1269
PDR



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

August 12, 1987

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

Dear Chairman Zech:

SUBJECT: ACRS COMMENTS ON PROPOSED FINAL BROAD SCOPE RULE TO MODIFY
GENERAL DESIGN CRITERION 4, ENVIRONMENTAL AND MISSILE DESIGN
BASES (GDC-4)

During the 328th meeting of the ACRS, August 6-8, 1987, we met with representatives of the NRC Staff and reviewed the final broad scope rule to modify GDC-4. The ACRS Subcommittee on Metal Components held meetings on this subject on February 27-28, 1986 and July 24, 1987 with representatives of the NRC Staff and the nuclear industry. We also had the benefit of the document referenced.

We endorse the issuance of the proposed final rule modifying GDC-4 regarding consideration of the dynamic effects of postulated pipe ruptures in a nuclear power plant's design basis. The acceptance criteria outlined by the NRC Staff appear to be conservative enough to ensure that the pipes in question will leak at easily detectable rates well before complete breaks occur.

The proposed rule states, "the Commission will permit applicants and licensees to justify alternative environmental qualification requirements case-by-case to replace those environmental qualification requirements which were associated with postulated pipe ruptures" We wish to be kept informed of any relaxation of environmental qualification requirements outside primary containment which are based on leak-before-break consideration.

Further, we have an interest in the possibility that a licensee may be able to demonstrate that water hammer is unlikely to occur in a given high energy system outside of primary containment, and therefore leak-before-break concepts can be applied. Should such a situation be proposed by an applicant or licensee and found acceptable to the NRC Staff, we wish to be kept informed.

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Additional comments by ACRS Members David Okrent and Glenn A. Reed are presented below.

Sincerely,



William Kerr
Chairman

Additional Comments by ACRS Members David Okrent and Glenn A. Reed

Despite the seeming arrival of cures from time to time, we believe that the long history of stress corrosion cracking in BWRs, and the absence of an adequate history of operating experience free from intergranular stress corrosion cracking (IGSCC) make it prudent not to permit application of "leak-before-break" to BWR high energy piping at this time, even if stress improvement and improved water chemistry are present.

Reference:

Memorandum to Distribution from R. J. Bosnak, DN/DE/RES, Subj: Resolution of ACRS/CRGR Comments on Final Broad Scope Amendment to GDC-4, dated July 29, 1987, with Enclosures:

1. Memorandum for Commissioners from Victor Stello, Jr. EDO, Subj: Final Broad Scope Rule to Modify General Design Criterion 4 of Appendix A, 10 CFR Part 50
2. NUREG-0800 (Formerly NUREG-75/087), Standard Review Plan, Section 3.6.3, "Leak-Before-Break Evaluation Procedures"