THE PENNSYLVANIA STATE UNIVERSITY
213 ENGINEERING UNIT E
UNIVERSITY PARK, PENNSYLVANIA 16802

College of Engineering
Department of Mechanical Engineering

CT-1102
PDR 5/18/79

April 2, 1979

Mr. R. L. Wright
Staff Engineer
Advisory Committee on Reactor Safeguards
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Wright:

I read with interest the report entitled "ECCS Valve Failure Rate Analysis" which you sent to me on March 29. First of all, a review by the Reliability Subcommittee of the LER Evaluation Program may be in order, and I would be happy to assist if the subcommittee chairman would desire this.

On another matter, I note that the failure data was only used to calculate average failure rates. I, for one am, and always have been, rather skeptical of the use of constant failure rates for mechanical equipment which is subject to deterioration such as seal failures and particularly fatigue type failures. I am convinced that a Weibull type analysis would be very appropriate to establish wear-out trends. I have used this approach in my experience with jet engine reliability studies and found the Weibull statistics to be an excellent method of uncovering wear-out trends and establishing maintenance programs.

Sincerely yours,

Gerhard Reethof
Professor of Mechanical Engineering
and Director of the Noise Control
Laboratory

GR/mjc

P.S.: Please return the attached copy with the comments to me. Thanks!

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