UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 22, 1998

Mr. David A. Lochbaum
Union of Concerned Scientists
1616 P Street, NW, Suite 310
Washington, DC 20035-1495

Dear Mr. Lochbaum:

SUBJECT: AUXILIARY/EMERGENCY FEEDWATER SYSTEM RELIABILITY STUDY

Enclosed is a copy of a draft report, "Auxiliary/Emergency Feedwater System Reliability, 1987-1995," INEEL/EXT-97-00740, for your information and comments, if desired. This draft report is currently being "peer" reviewed within the NRC and by a number of external organizations. The objective of this study was to assess auxiliary feedwater system performance in 72 PWRs based on operating experience from 1987-1995.

Major findings of the study include the following:

- Based on the 1987-1995 experience data, there were no failures of the entire system identified in 1,117 unplanned system demands.
- The operational unreliability of the AFW system calculated by arithmetically averaging the results of 72 plant-specific models is 3.4×10^{-5}. Individual results vary over two orders of magnitude, from 1.5×10^{-6} to 6.2×10^{-4}.
- The variability in AFW system unreliability reflects the diversity found in AFW system designs, and to some extent variation in results among plants with similar designs.
- AFW designs composed only of turbine-driven pumps were the least reliable, while AFW designs comprising three redundant trains of diverse design (e.g., two motor and one turbine driven pumps) were more reliable. The benefit of additional trains of redundancy to AFW system reliability is offset by the effects of common cause failures

Should you desire to provide any comments, we would appreciate receiving them within 45 days from receipt of this letter.

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As you may know, the Office for Analysis and Evaluation of Operational Data studies do not represent an official U.S. Nuclear Regulatory Commission position or the position of the responsible NRC program office. Our reports are one input to an ongoing review and evaluation process.

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A copy of this draft report and letter are being placed in the Public Document Room at 2120 L Street NW, Washington, DC 20555.

If you have any questions related to this report, please feel free to contact Dr. Dale Rasmuson (301-415-7571) (e-mail: dmr@nrc.gov) of my staff.

Sincerely,

Original signed by:

Charles E. Rossi, Director
Safety Programs Division
Office for Analysis and Evaluation
of Operational Data

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