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ARKANSAS POWER & LIGHT COMPANY

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R&D-355

R. W. Froelich
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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555



Subject: Staff Supplement to the Draft Report on Human Engineering
Guide to Control Room Evaluation, NUREG-0659

Dear Sir:

Arkansas Power and Light has reviewed the subject document and has prepared the following comments. These comments are provided so that activities undertaken by utilities pursuant to NUREG-0700 will achieve the desired goals. These goals are threefold: (1) To improve the man/machine interface in nuclear power plant control rooms and thereby reduce the potential for human error; (2) To improve the interface within an acceptable time-frame; and (3) To improve the interface in a cost-effective manner consistent with maintaining plant safety and availability. Since both of Arkansas Power and Light Company's nuclear units are in commercial operation, our comments are generated from the vantage point of backfitting existing control rooms.

Generally, the guidelines are only applicable to plants in the early stages of design and cannot be applied, in any constructive sense, to an operating nuclear unit. The document offers some common sense fixes utilizing existing technology to correct problems, but ignores the development of new industry standards necessary to include state-of-the-art instrumentation technologies in control interfaces. In other words, the NUREGs do not address the development of human engineering standards for nuclear power applications to replace the military standards now being used.

To backfit existing plants, a method for determining the significance of an HED (Human Engineering Deficiency) must be presented. Criteria must then be supplied which relates HED significance to HED backfit priority. Unless the HED assessment can address HED significance and an associated backfit priority, an implementation plan prepared to respond to a design review will be arbitrary in the selection of an implementation schedule, i.e. potentially significant HED's will be indistinguishable from those of lesser importance. This concern was identified by industry reviewers of NUREG/CR-1580 but has been inadequately addressed in NUREG-0659.

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MEMBER MIDDLE SOUTH UTILITIES SYSTEM

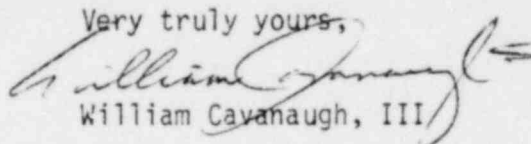
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Most of the human factors engineering data have been derived from the defense industry. Generally, the data have not been validated for nuclear plant operators. Correspondingly, modifications initiated in response to a design survey will be based on the same defense industry data without validation in the nuclear industry. Valid data for the nuclear industry should be developed prior to extensive application of defense industry data. As in the case above, this situation was identified earlier but inadequately addressed in NUREG-0659.

The NRC staff has presented the data in NUREG/CR-1580 and NUREG-0659 as guidelines - not as standards. Since they are guidelines, we assume they are advisory and discretionary (as guidelines normally are), and that they are examples rather than specific actions to be taken. We assume that the staff will recognize this distinction between guidelines and standards and not attempt to use NUREG-0700 as if it is a book of standards.

These comments represent a collective review of several cognizant groups within AP&L. We appreciate the opportunity to provide them to you. If you need additional clarification, please contact me.

Very truly yours,



William Cavanaugh, III

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