

50-320

JUN 13 1979

Mr. John M. Humes
27002 Floresta Lane
Mission Viejo, CA 92691

Dear Mr. Humes:

Your letter dated April 19, 1979 to Chairman Hendrie, which provided a copy of your letter to President Carter concerning the use of human factors engineering in the design and operation of nuclear power plants, has been forwarded to me for reply.

We agree with you that human factors engineering is important to the design and operation of nuclear power plants. One of the recommendations of a staff task group, formed to perform a general assessment of feedwater transients in Dabcock and Milcox plants in light of operating experiences, including the Three Mile Island accident, was that more emphasis on human factors engineering should be placed on the design and layout of control rooms. The staff task group also made other comments on human factors. A copy of the staff task group report (NUREG-0560) is enclosed for your information.

As mentioned in NUREG-0560, several studies related to human factors are presently under way. NRC-sponsored studies include: (1) a safety-related operator action study to determine, with better precision, the times required for operator response; (2) a detailed review of Licensee Event Reports to develop human reliability numbers for risk assessment studies; and (3) a human reliability study regarding maintenance and instrument calibration tasks. In 1977, NRC sponsored research by the Aerospace Corporation on human engineering. Its report, AEROSPACE REPORT NO. ATR-77(2815), addresses the subject of human engineering of nuclear power plant control rooms and its effects on operator performance. In addition to these NRC studies, the Electric Power Research Institute is sponsoring studies on human engineering in the control room, and assessment of advanced control rooms, and conducting performance measurements. As a result of additional staff review of the human factors aspect of the Three Mile Island event, I am sure additional studies will be initiated. The applicable results of all these studies will be factored into the regulatory process as they become available.

Subsequent to publication of NUREG-0560 a separate staff task group, "Lessons Learned Task Force," was formed to review the Three Mile Island accident, including the review and evaluation of investigative information, staff evaluations of responses to Office of Inspection and Enforcement Bulletins and Orders, staff recommendations, and recommended actions from outside of the NRC. The Lessons Learned Task Force will identify, analyze, and recommend

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changes to licensing requirements and the licensing process for nuclear power plants based on the lessons learned and previous recommendations for interim requirements for new operating licenses prior to completion of long-term activities. Your recommendations, along with the recommendations of other groups, will be taken into account during the review of the Three Mile Island event. We will be meeting with human factors engineers to obtain their direct input. If you are in Washington, D. C. in the future, we would be pleased to meet with you to further discuss your views on human factors engineering. To arrange a meeting with the Lessons Learned Task Force, or to provide additional information, you may call the Lessons Learned Task Force Chairman, Dr. Roger J. Mattson (telephone number - Area Code 202 - 492-7517).

Dr. Mattson's group will respond to your individual items in the course of their work. The purpose of this letter is to thank you for your suggestions and to let you know of NRC activities in the area of human engineering. We agree that much more needs to be accomplished in the area of human engineering.

Sincerely,

ORIGINALLY SIGNED BY R. B. SMITH

Robert B. Minogue, Director
Office of Standards Development

Enclosure: NUREG-0560

- bcc: R. B. Minogue
- G. A. Arlotto
- W. M. Morrison
- E. C. Wenzinger
- S. D. Richardson
- G. L. Bennett
- R. J. Mattson

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