

JAN 24 1983

Mr. Edward J. Sheehy
Box 539
Norris, Tennessee 37828

Dear Mr. Sheehy:

Thank you for your letter to Harold Denton of November 3, 1982, enclosing copies of your October 7, 1982, presentation to the NRC and INPO staffs and your letter to Ms. Jan Preston of the ACRS staff. That material further documented your concerns about Detailed Control Room Design Reviews, Task Action Item I.D.1. You stated in your letter that you believe that it is your responsibility to bring this issue to an appropriate level of attention within NRC. You further indicated that to date none of the NRC correspondence reflects enough technical understanding of your concern. In our meeting of October 7, 1982, and subsequent telephone conversations, you stated that your responsibility will have been met only after you have made NRC fully cognizant of the issue. As noted in the discussions below, I believe that NRC is fully cognizant of the issues you have raised.

I believe your meeting of October 7, 1982, including your presentation to the NRC and INPO staffs and the subsequent more detailed discussions with the NRC staff, resulted in a good interchange. You discussed your concern about the scope of the Detailed Control Room Design Review. Specifically, your concern relates to requirements for the system/function/task analysis being limited to consideration of emergency operating procedures. You expressed the opinion that NRC should, in addition, require all utilities to perform an operability review of control and instrumentation associated with abnormal occurrences. The objective of this additional review is to assure that there are no major human factors problems associated with the hardware that the operator must use to respond to challenges to plant safety. You felt that this could be accomplished by walk-throughs and talk-throughs of appropriately selected abnormal operating procedures.

In order to explain your concern, you introduced the concept of operator integrity, i.e., the ability of the operator, as a component of the reactor plant system, to operate as trained. You expressed the concern that operator integrity could be unduly challenged by trying to manage abnormal occurrences, such as those caused by fire or earthquake, in a poorly designed control room. A control room that is poorly designed for managing abnormal occurrences could increase stress and thereby challenge operator integrity. The challenge to operator integrity could increase the probability of an abnormal occurrence leading to an accident and leave the operating staff less able to cope with an accident.

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At the meeting the NRC staff acknowledged our recognition of the importance of operator integrity. We discussed a number of programs in addition to the Detailed Control Room Design Review that are designed to improve operator integrity. These include improved operator licensing examinations, a higher passing grade requirement, improved training programs, the safety parameters display system, improved instrumentation to follow the course of accidents, and upgraded emergency operating procedures. The staff discussed how the Detailed Control Design Reviews at least partially address your concerns related to abnormal occurrences. The operating experience and operating crew surveys are intended to identify all significant human engineering discrepancies (HEDs) that have been experienced at the facility, including those involving abnormal operations. The detailed survey of the control room and remote shutdown panel using human engineering guidelines should identify additional HEDs, including those affecting abnormal operations. I do, however, agree with you that additional HEDs might be identified through a walk-through/talk-through of selected abnormal operating procedures. I believe the only significant difference between your views and those of the NRC staff concerns the urgency of performing these walk-through/talk-throughs.

We are addressing abnormal operating procedures as well as normal operating procedures and maintenance procedures as a part of Action Item I.C.9, "Long Term Program Plan for Upgraded Procedures." This approach has the advantages of (1) giving careful consideration to potential improvements in safety resulting from upgrading the different kinds of procedures and (2) setting priorities to best utilize NRC and utility resources. Further, control room improvements, if required, would be based on upgraded abnormal operating procedures rather than the existing procedures as you suggest.

However, to provide additional assurance that the approach planned by the staff and approved by the Commission does not likely result in a second major modification to control room panels as a result of abnormal operating procedure reviews, the staff plans to do the following. We will select a plant with a simulator, select two or three appropriate abnormal occurrence procedures, and have an operating crew conduct a walk-through/talk-through. We will note any HEDs revealed by the walk-through/talk-through. The HEDs would then be compared with those that were or would have been identified by the DCRDR outlined in SECY 82-111. Any HEDs identifiable only through consideration of abnormal occurrences procedures will be evaluated as to their seriousness and ease of correction. The results will be used as the basis for any changes needed in the current program.

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Admittedly, consideration of two or three abnormal occurrence procedures in a single control room would not provide a completely definitive answer, but it will give us an indication. However, to use additional resources at this time would not be cost effective and would detract from higher priority tasks.

Original Signed by
Hugh L. Thompson, Jr.

Hugh L. Thompson, Jr., Director
Division of Human Factors Safety
Office of Nuclear Reactor Regulation

*SEE PREVIOUS RECORD COPY FOR CONCURRENCES

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Admittedly, consideration of two or three abnormal occurrence procedures in a single control room would not provide a completely definitive answer, but it will give us an indication. However, to use additional resources at this time would not be cost effective and would detract from higher priority tasks.

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Hugh L. Thompson, Jr., Director

*By phone
12/27/82*

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