



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

May 11, 1982

The Honorable Nunzio J. Palladino
Chairman
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. Palladino:

Subject: ACRS REPORT ON EMERGENCY RESPONSE CAPABILITIES AT NUCLEAR POWER PLANTS

During its 265th meeting, May 6-8, 1982, the ACRS reviewed the subject matter described in SECY-82-111, "Requirements for Emergency Response Capability." This matter was considered in meetings of an ACRS Subcommittee on January 5, March 17, and May 5, 1982. During this review we had the benefit of presentations by the NRC Staff as well as by representatives of the nuclear power industry and interested organizations.

We have concluded that the overall plan outlined in SECY-82-111 to bring about improvements in emergency response capabilities at licensed nuclear power plants is generally sound and should be adopted. We have concerns however about several issues.

Analysis and review of the TMI-2 accident have identified many improvements that could be made in the design and operation of nuclear power plants to provide for better control of abnormal conditions and management of accidents. Since 1979, this has resulted in a growing list of proposals for added requirements to be placed on licensees and applicants. This list has not been well defined and has included inputs from varied elements of the NRC Staff with interrelated and overlapping interests. Uncertainty about what final requirements would eventually evolve from this body of information has proven to be an impediment to actual plant improvements in emergency response capabilities. Licensees and applicants have been understandably reluctant to proceed with improvements until they could develop some understanding of what new requirements might be forthcoming.

In the face of failure of the more traditional regulatory practice of developing and promulgating requirements that are as explicit as possible, we believe the NRC Staff has successfully integrated the many proposals for emergency response improvements and proposed a process to assure their implementation. As we understand the process, the licensees will be told that they will be required to adopt, in some form, the several new systems

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and operating practices described in SECY-82-111. The many NUREG reports and Regulatory Guides referenced in this document will serve only as guides, not firm requirements. Using NRC Project Managers with technical support from branches in the NRC Staff, the NRC will then negotiate with each licensee a detailed agreement on how the several general improvements will be incorporated in each specific plant. This negotiated, detailed agreement will then become a set of requirements for that particular plant. While we believe this process can be made to work, it does place a heavy burden of responsibility on the Project Managers. It should be constantly monitored by NRC management.

The following matters should be given additional NRC Staff attention.

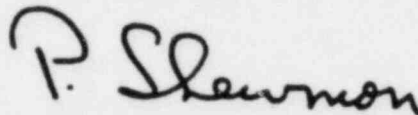
- . The timing for implementation of new Emergency Operating Procedures (EOPs) and the Safety Parameter Display System (SPDS) appears to be a problem. Apparently, EOPs will be written with the SPDS as an important element of the control room information management system. New EOPs are scheduled, we understand, to be put into use in most plants later this year. SPDS installation in plants is two or three years in the future. There may be a temptation to delay upgrading of EOPs pending completion of SPDS installations. We believe use of new EOPs is very important and should be implemented without delay, if necessary, using non-SPDS versions in the interim.
- . The SPDS has been singled out by the NRC Staff to be implemented on a higher priority than some other elements of the program. This is because of the Staff's judgment that the SPDS will be highly beneficial in reducing the type of operator error which contributes most significantly to risk. There is some opinion that SPDS implementation should not be singled out but should evolve out of the more general control room information management evaluation and upgrading described in NUREG-0700, "Guidelines for Control Room Design Reviews." While we have some sympathy with this view, we believe the SPDS implementation should proceed as the Staff suggests.
- . We believe that implementation of the SPDS should not be forced at a rate which will preclude its orderly development. The SPDS has considerable potential as a diagnostic tool to assist operators in the effective management of a wide range of possible abnormal occurrences. We believe the industry should be encouraged to develop designs which can be expanded to incorporate confirmatory and diagnostic functions and should be permitted the flexibility to do this.
- . We suggest that additional attention be given to some specification of reliability for the SPDS. We encourage the industry, in cooperation with the NRC Staff, to develop appropriate standards.

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- . We are skeptical about the need for the comprehensive analysis of control room information management systems called for in NUREG-0700. We believe that many of the benefits coming from such a review will be in control board improvements which will tend to raise the "skill-based" performance of operators. However, our understanding of the contribution of operator error to risk is that cognitive error is the major factor. Because resources are limited, we recommend that priorities be assigned to the guidelines of NUREG-0700 so that improvements that provide important risk reduction will be emphasized.

With the exceptions noted above, we endorse the program described in SECY-82-111 and urge its expeditious implementation. We would like to be kept informed about progress of the program.

Sincerely,

A handwritten signature in cursive script that reads "P. Shewmon". The signature is written in dark ink and is positioned above the typed name and title.

P. Shewmon
Chairman