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May 12, 1993

Memorandum For: H. Lewis, Chairman  
PRA Subcommittee

From: W. Kerr, Consultant *W Kerr*

Subject: Comments on the PRA Subcommittee Meeting, May 11, 1993

My principal concern with the study of the use of PRA by the NRC staff was very well expressed in the comments made by Garrick, namely:

" The fundamental questions of why and how the NRC should use PRA have not been answered."

The staff, in their presentation to the subcommittee, made it clear that they considered this question to be beyond what they were asked to do. This decision was probably inevitable, given that all members of the PRA Working Group had full time jobs elsewhere. Nevertheless, the fundamental questions raised by Garrick (and others) must be answered in some fashion if a coherent and reasonable application of PRA is to occur. Thus, although the draft report may be interpreted as a first step in a process that will make it possible to use PRA in the regulatory process, unless there is more focus on the fundamental questions, the staff will never be able to use PRA's many powerful possibilities.

Some items that should be in the report but are not:

1) One of the difficulties of using PRA in regulation stems from the fact that almost all the regulations, including the GDCs, came into existence prior to 1975. Few, if any, have been changed to reflect knowledge and insights gained through PRA. Even if the report doesn't propose to do anything about this, it should at least mention it as a barrier to effective use of PRA.

2) Both the resident inspectors and the project managers for a plant (unit) should be required to become familiar with the plant's (unit's) IPE. The advantages are so obvious that I won't elaborate.

3) The report indicates that the reviews of IPES will be confined to an examination of the process? Why are the results of less interest? The Working Group indicates that plans are being made for the use by the staff of the information developed in the course of the IPES. It would make sense to decide how the results of the IPE are to be used before the IPE reviews are performed.

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4) How are the results of the Severe Accident Precursor study performed by ORNL to be integrated into the regulatory process? It appears that a better understanding of the PRA process should make the results more interpretable and should make it less likely that they will be misinterpreted.

Some additional comments are as follows:

1) "Guidance" for the staff is a mixture of philosophy with occasional imbedded guidance for staff who are using PRAs and risk based approaches in the course of regulation. The report would be more useful if the two were separated. In addition, the guidance material needs to be sharpened. Guidance indicating that a regulator should "consider" or "examine" something is not very useful.

2) I would urge elimination of recommendations for the use of conservatism. This recommendation can be interpreted as an excuse for tailoring the results to fit the prejudices of the reviewer.

3) A memo from E. Beckjord to J. Larkins, dated April 20, 1993, was distributed at the subcommittee meeting. What does it mean? It appears to say that the staff has abandoned efforts to describe how PRAs will be used to decide if evolutionary reactors are capable of dealing appropriately with severe accidents. The use of the PRA is perhaps expected to evolve, in some mysterious fashion, during the certification process.