

The Honorable Ivan Selin  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Chairman Selin:

SUBJECT: STAFF APPROACH FOR ASSESSING THE CONSISTENCY OF THE  
PRESENT REGULATIONS WITH RESPECT TO THE COMMISSION'S  
SAFETY GOALS

During the 397th meeting of the Advisory Committee on Reactor Safeguards, May 13-15, 1993, we discussed a draft Commission paper regarding the staff's proposed approach for assessing the consistency of present regulations with respect to the Commission's safety goals. During this meeting, we had the benefit of discussions with representatives of the staff.

In a Staff Requirements Memorandum (SRM) dated June 15, 1990, the Commission requested that the staff develop a plan "for assessing the consistency of our regulations with the safety goals." This is an effort that the Committee has recommended in several reports, and continues to endorse.

In its presentation, the staff provided a conclusion that a specific new program is not necessary to respond to the SRM. The staff contends that existing programs, in the areas noted below, are sufficient to make the desired assessment:

1. Elimination of Requirements Marginal to Safety
2. IPE/IPEEE Data Base Insights
3. Other ongoing activities that include:

The Regulatory Review Group  
Generic Safety Issue evaluations  
AEOD evaluations of operational events and data  
NRR inspection reports  
Accident Sequence Precursor studies

We believe that these existing programs can provide input into the subject program, but are not by themselves responsive to the SRM. We recommend that a directed effort be undertaken to make the assessments requested in the SRM. A first step should be to develop an assessment strategy to make use of the IPE/IPEEE results and other appropriate PRA results to establish the existing level of safety that has resulted from compliance with the body of current regulations, to be compared with the safety goals.

The facts that the IPEs are essentially Level 2 PRAs and do not evaluate risk directly, and that seismic and fire events in IPEEEs are not necessarily evaluated probabilistically, are formidable barriers to their use for assessing the consistency of the present

regulations with the safety goals. Nevertheless, these and other existing PRAs are the best available information for such an assessment. We recommend that the assessment strategy include the development of surrogates for the safety goals, expressed in terms of core damage probability and conditional containment failure probability  $\gamma$  the outputs of the IPE. We believe that bounding, site-independent surrogates can be developed because, for high source terms, the conditional mean individual risk of early fatalities approaches a limit of about 0.1, and the conditional mean individual risk for latent fatalities approaches a limit of about 0.01. These limits result from the probability that the wind will blow in a given direction.

It is entirely possible that the outcome of such an assessment will reveal that the level of risk resulting from compliance with the body of existing regulations is below the safety goal levels of risk. Such a finding would have significant implications. It is important that such a determination be made.

Sincerely,

Paul Shewmon  
Chairman

Reference:

1. Memorandum dated April 18, 1993, from C. J. Heltemes, Office of Nuclear Regulatory Research, for John T. Larkins, ACRS, Subject: Staff Approach for Assessing the Consistency of the Present Regulations with Respect to the Commission's Safety Goals, with attachments:
  - a. SRM dated June 15, 1990, Subject: SECY-89-102, Subject: Implementation of the Safety Goals
  - b. Draft SECY paper for the Commissioners from James M. Taylor, EDO, Subject: Staff Approach for Assessing the Consistency of the Present Regulations with Respect to the Commission's Safety Goals (Predecisional)

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2. ACRS Report dated April 12, 1988, from W. Kerr, ACRS Chairman, to The Honorable Lando W. Zech, Jr., NRC Chairman, Subject: Program to Implement the Safety Goal Policy -- ACRS Comments