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Los Alamos

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DATE: January 30, 1991  
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## Engineering & Safety Analysis

Dr. J. Catton  
US Nuclear Regulatory Commission  
Advisory Committee on Reactor Safeguards  
Washington, DC 20555

Jan 8 1991

Dear Ivan:

Subject: Consultant Report for Interfacing System LOCA Program Meeting on  
December 12, 1990

My comments on the review of the NRC (both NRR and RES) program to resolve the Interfacing System LOCA Issue are given below. It should be noted that I am currently in conflict of interest with INEL and much of the work was performed by them.

- The use of Davis-Besse as a generic plant is not addressed clearly in the draft report. It is not the Davis-Besse plant because of assumptions used in the PRA (i.e., the meteorology data and other assumptions). It appears that the interfacing system LOCA is highly plant dependent and should be considered as such.
- There appears to be a diversity of opinions on whether plant procedures should be specific vs symptom-oriented and operators' knowledge of what is going on vs following plant procedures. I believe this should be resolved within NRC.
- It is not clear that NRR feels the intent of the Standard Review Plan (Sec. 6.3) is being fully satisfied with the single-failure analysis being performed. If it is not being satisfied, then the NRR should specify what is required.

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- Although I realize that the LER database is hard to use for interfacing system LOCA precursors, I am not convinced that the Level I PRA analysis is consistent with the LER data. I believe this would warrant future work and explanation in the report.
- The accident environmental issues that will be a part of any break in an interfacing system LOCA appear not to be considered or adequately considered. Increased risk from common-cause failure needs to be addressed in detail to evaluate these effects.
- I believe that human factors are an important part of the interfacing system LOCA issues. The work that INEL presented is a step forward but an unproven method. This should not be considered as a comment against research in this area because I believe it is clearly needed. However, if it is an important part of the interfacing system LOCAs, then NRR should focus on their work in this area.
- It appeared from the presentation that the need for improved instrumentation and/or improved procedures comes from the human factors analysis. I believe that if this is the case a more careful and detailed analysis of human factors needs to be performed.
- Currently, the plant comparisons are not using overall plant risk. By not doing this, the overall effect of changes being considered cannot be evaluated against overall risk changes. I believe this is a serious drawback to the studies being performed on the interfacing system LOCA issues.
- Currently, PWRs are the only type of reactor being considered. I believe that BWRs also should be included in the Interfacing System LOCA Program. When I asked about including BWRs, it was not clear that NRR and RES were going to include the BWR to the extent that PWRs were studied.
- Interfacing system LOCAs represent a relatively high-probability event with a relatively high probability of recovery, much of which is largely dependent on human intervention. Human factor analysis is one of the weakest areas in PRA.

January 30, 1991

and now we find our analyses depend on this area. I believe that additional focus and work should be given to this area in future analysis and particularly where decisions on suggested changes to plants are involved.

If you or the ACRS members or staff have any questions about my comments please do not hesitate to call me at (505)667-6231 or FTS 843-6231.

Sincerely,



L. H. Sullivan

LHS/js

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