



Franklin Research Center  
A Division of The Franklin Institute

CT-1240

April 30, 1980

Mr. Peter Tam  
Advisory Committee on Reactor Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Re: Review of NUREG 0677 - Transient Response of B&W Designed Reactors,  
ACRS Meeting on 29 April, 1980.

Dear Mr. Tam:

In general, recommendations made in NUREG 0667 appear to be sound and contributory to the enhancement of nuclear power plant safety. There remains, however, the question whether the prescriptive manner in which these recommendations are offered will result in the highest possible risk reduction for each of the individual power plants these recommendations apply to. It is quite likely that individual plants may be able to achieve the same objectives more cost effectively if they are allowed to be inventive. Accordingly, I recommend that NUREG 0667 be issued as a guide only and the industry invited to come up with its own implementation details or acceptance of the items as given in the guide.

If the above recommendation is not acceptable (too late) I believe that NUREG 0667 items should be made part of the NRC Action Plan, as it was originally intended. The fact that such a resolution may delay issuance of the Action Plan for some period of time does not appear to be a good enough reason for issuing NUREG 0667 action items as a separate set.

On specific details of NUREG 0667 I offer the following comments for consideration.

Items 9, 10, 19 and 21 should be performed together and lead should be taken by the industry (Mr. Tedesco's transparency correctly indicated that, but the text on Page 5-26 calls for NRR to do the job).

Item 6 lists the minimum set of parameters that should be established for plant status vector indication. I recommend that level indication in quench tank should be added to that list (it may contain reactor coolant). The fact that the quench tank is not an item supplied by NSSS does not appear to be good enough reason for not adding its level indicator to the list. Past experience indicates that it is advisable to know a lot more about what is going in the quench tank. Similarly, I suggest that the quench tank design criteria (volume, pressure, cooling capacity) be reviewed by the staff.

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Mr. Peter Tam  
ACRS

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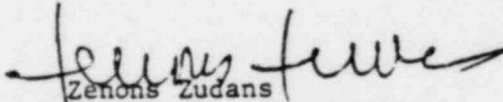
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Item 20 discusses the need for RCP trip during SB Loca. This issue is complicated by the fact that pressurizer spray is inoperative with pumps tripped. I recommend that industry evaluate the advantages of adding a dedicated canned motor pump for pressurizer spray, operable independent of RCP.

Item 1 seismic requirement relaxation is apparently based on the belief that feed-and-bleed cooling mode for most B&W plants is available. Item 17 refers to the Consumer Power proposal where PORV will be qualified safety-grade. I believe the Consumers Power proposal is a step in the right direction because it will not only provide feed-and-bleed capability but will also reduce the reactor scram frequency. However, it is not as simple as it might appear. First, I (and others) feel that an attempt to qualify current design PORV is doomed to failure. Other types of valves (such as spherical, for example) should be selected at the outset. Also, the feed-and-bleed concept should be looked at from the overall associated systems point of view and the performance criteria set-up for all components in the feed-and-bleed loop. (It was noted that current plant operating guidelines invoke feed-and-bleed operating mode anywhere.)

Chapter 7 Risk Reduction Potential as presented is a collection of subjective individual judgements. Prioritization as proposed by Mr. Tedesco appears to be acceptable, except that Item 21 should be placed in the same priority class as Items 9, 10, and 19.

Very truly yours,

  
Zenons Zudans  
Senior Vice President,  
Engineering

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