



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ATWS
~~1/22/79~~

JAN 17 1979

NOTE TO: R. J. Mattson

The newly formed task force on ATWS met for the first time on 1/16 to discuss the work required between now and May 1979 and to develop the questions/statements for generic ATWS analyses. The task force members were requested to provide their input to the generic set of questions/statements before 1/24/79.

During this useful period of briefing of the task members followed by exchange of viewpoints, the following important questions/comments were raised and discussed.

1. Since MTC value specified is based on estimates of future operation, what, if anything, can we do if the future operation is different than that assumed in the development of the specified value?

My comment: The applicant should be required to recognize that if the plant design or operation changes appreciably in the future such that the plant does not fall within the generic envelope, he may be required to reconsider earlier ATWS conclusions. If this is reasonable, would the rule or the regulatory guide provide the necessary mechanism for accomplishing this objective.

2. If the plant were to be permitted to operate at its "stretch" rating, how would we treat such a large (in some cases) change in an important parameter?

My comment: Same as under 1. above.

3. Some questioned the use of nominal values of parameters in generic analyses and recommended using bounding values. Also, what if the sensitivity to a parameter is very high?

My comment: An objective is to determine, as well as we can, the realistic course of an ATWS and thus we should use nominal values. If there are small differences in the nominal parameter values for a class of plants, the sensitivity studies could and should be relied on to make judgments.

Additionally, my judgment based on review of earlier ATWS analyses is that there is no threshold phenomenon (i.e., extreme consequence dependence on small variation in a parameter value); however, if there is a very important parameter whose initial value is not well understood, use of a conservative value could be required if the preverification approach is to be successful.

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4. How should PCI failures be treated?

My comment Use NUREG-0460, Vol. 2 approach or specify what the penalty might be. Eliminate, if possible, vague guidelines.

5. Jim Norberg indicated he would need assistance from someone familiar with ATWS and developing rules and reg. guides. Perhaps Roger Mattson could ask for John Huang, an ex-member of Standards and now, I believe, in the Division of Operating Reactors.

6. Frank Cherny emphasized the need for DOR participation in the review of mechanical engineering aspects of operating reactors. He recommended that we request Keith Wichman of DOR to work with us on ATWS.

7. A difficult question, because of variety of subjects, was the required format for the task force members to prepare their questions and/or comments.

My comment: I think the most straightforward approach is to state what we want.

Examples: Identify approved models.

Identify open areas and recommend a way to resolve open areas. Specify what kind of penalty may be imposed if the vendor does not provide acceptable response. (Note: No Q1s or Q2s.)

Specify transients to be analyzed.

Specify ICs and sensitivity studies.

Specify assumptions for alt. #3 and alt. #4 analyses.

Require list of plants which fall under each set of analyses.

Require list of systems relied on.

Specify requirements for these systems for different alternatives.

Specify what the analysis must include as a minimum.

Specify the constraints on future design or operational variations.

Specify criteria under which dose calculations need not be performed.

Specify limits and operability criteria and require vendors to show how each class of plants would meet these limits. Keep in mind different approaches in PWRs on alt. #3 and alt. #4.

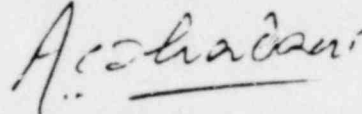
Require vendors to specify the necessary plant modifications to satisfy the criteria of Volume 3, NUREG-0460. Require vendors to provide sufficient detail to ascertain that the mitigating systems criteria of Vol. 3 of NUREG-0460 shall be satisfied.

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8. Allotted time for this ambitious approach is too short.

I would appreciate (a) your comments, especially if you have any disagreements with the above approach and (b) your requesting DOR to add John Huang and Keith Wichman to the ATWS task force.



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