



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

AUG 08 1979

TAP A-9

NOTE TO: A. Thadani  
FROM: M. Srinivasan  
SUBJECT: W/ATWS FIX

Following are some thoughts for deliberation with Westinghouse at the forthcoming meeting with them on their ATWS submittal of June 8, 1979:

1. Table 3-2 item (50) says that pump start time is not applicable (NA). Since throughout the ATWS analysis, Westinghouse takes credit for the availability for aux. feedwater system within 60 secs, the discrepancy in this table should be rectified.
2. In Section 5.3.2 on the "Loss of offsite power without reactor trip" analysis, it is assumed that "pressurizer relief valves are operable". This assumption stipulates a requirement that the power and control circuits for these valves are fed from plants on-site emergency power source. Westinghouse should distinctly categorize this as interface requirement for the BOP designer for ATWS mitigation.
3. In Section 5.4.2 on the "ATWS accidental depressurization of the reactor coolant system" normal operation of pressurizer pressure control is assumed. In this regard, Westinghouse should provide design information on these heaters, their power and control circuits and their environmental qualification to assure proper operation of the pressurizer pressure control for this event.
4. In some analyses, Westinghouse has assumed operator action at 600 seconds into the transient event. In the light of TMI-2 experience and the prevailing licensing practice, we need to critically evaluate this and hence require a detailed discussion from Westinghouse on all manual operator actions needed in the mitigation of ATWS events.

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5. In all ATWS analyses, Westinghouse has assumed aux. feedwater flow within 60 seconds. In the light of TMI-2 experience, I believe, it would be worthwhile to perform these analyses assuming a temporary loss of aux. feedwater system for the first few minutes into the transient.
6. In Sections 9.0 and 10.0, Westinghouse has made a vague attempt to discuss how the ATWS mitigating systems conform to the requirements of Appendix C of NUREG 0460, Vol. 3. Since the two mitigating systems, i.e., aux. feedwater system and turbine trip, are totally in BOP scope, Westinghouse did not provide adequate design information for us to evaluate the conformance of these mitigating systems to the above referred requirements.

We are seeking a generic resolution to ATWS but the mitigating systems relied upon by Westinghouse in their analyses are in BOP scope. To facilitate completion of our generic review of the ATWS fix, I suggest that:

- a) We require Westinghouse to select a specific plant wherein these mitigating systems are presently available and provide all the design information requested by the staff in items 1X-C of our letter of February 15, 1979 for staff's review and evaluation.
  - b) We also require Westinghouse to distinctly stipulate all the requirements of Appendix C of NUREG 0460 Volume 3 for these two mitigating systems as interface requirements for other BOP designs as part of the ATWS resolution.
7. In Section 9.2 Westinghouse has stated that "there are no identifiable safe shutdown systems per se".

We need to clarify the above statement with Westinghouse, since standard format does require "description of the systems that are needed for safe shutdown of the plant" in SAR Section 7.4.

8. In table 9-1 item c it is stated that "BOP mitigation equipment is outside containment" and "no extreme environmental conditions will apply to BOP equipment".

Since mitigation equipment has to perform adequately to validate the ATWS analyses assumptions, we should require that equipment qualification information relevant to the postulated ATWS conditions should be provided for our review and evaluation.

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cc: ✓ S. Hanauer  
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