

UNITED STATES NUCLEAR REGULATORY COMMISSION WASH'NGTON, D. C. 20555

## SEP 1 0 1979

File AI

MEMORANDUM FOR: S. H. Hanauer, Director Unresolved Safety Issues Program

FROM:

C. W. Burger, Task Manager

SUBJECT: PROPOSED ADDITIONAL SCOPE OF WORK FOR TASK ACTION PLAN A-1 (TAP A-1)

The recent reorganization of NRR and subsequent transfer of TAP A-1 under the Unresolved Safety Issues Program (USIP) necessitated the assignment of new NRR Staff to carry on the Task. During review and familiarization of the Task, the new TAP A-1 Staff indicated that it is essential to obtain a more definitive understanding of the safety significance of water hammer prior to development of any licensing documents. Therefore, a series of meetings were arranged between TAP A-1 Staff Members for the purpose of defining a course of action that would satisfy this concern.

The outcome of these meetings was the formalization of an additional scope of work for TAP A-1 agreed to by all Task Staff Members and identified below for your consideration.

Proposed Additional Scope of Work:

- EG&G, using TAP A-1 developed methods, will analyze two cases as identified by the staff.
  - a) BWR primary feedwater line, containing a swing-type check valve, subjected to a postulated pipe rupture at the check valve.
  - b) BWR core spray system with rapid startup of a centrifugal pump and a quick opening valve to produce flow into a voided line using realistic parameters to the extent possible.
- TAP A-1 Staff will meet with those utilities whose plants account for the majority of water hammer events as identified in the EG&G report (CAAP-TR-042) to discuss the potential significance (i.e., possible magnitudes, consequences and corrective actions) of the reported water hammer events.
- 3. EG&G, with TAP A-1 Staff input, will identify additional water hammer scenarios during normal and accident conditions that may not yet have occurred but have the potential to render redundant safety systems inoperable.

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- TAP A-1 Staff will select those identified scenarios needing further study.
- EG&G will establish the approximate magnitude of the hydraulic forces resulting from the staff selected scenarios with the exception of those events caused by steam bubble collapse.
- TAP A-1 Staff will then evaluate the safety significance of those selected scenarios from a realistic and conservative licensing point of view.

The estimated time required to complete this additional scope of work (items 1 thru 6) is seven months. It is further estimated that the current TAP A-1 completion date of December 31, 1980 will be extended by the same amount of time.

The additonal cost for EG&G assistance has also been considered and is estimated to be approximately \$50K.

In addition, I have notified the Probabilistic Analysis Staff of this intended scope and have requested their assistance.

It also must be noted that to ensure the success of TAP A-1 in a timely manner, it is essential that the currently assigned NRR Staff remain on the Task until completion.

C. W. Burger, Task Manager Task Action Plan A-1 Water Hammer

cc: TAP A-1 Staff F. Rowsome, PAS