

BROOKHAVEN NATIONAL LABORATORY
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FTS 666

Department of Nuclear Energy

October 17, 1983

Dr. Themis P. Speis, Director
Division of Safety Technology
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Dr. Speis:

A proposal (Form 189) entitled "Review of Probabilistic Risk Assessment for the Shoreham Nuclear Power Plant" has been sent to NRC under separate cover.

As per discussion between R. A. Bari and A. Thadani, the work described in the 189, at the stated level of effort, is consistent with BNL's assessment of the resource requirements for a PRA of this scope. More specifically, BNL requires that (1) the initial PRA submittal and supporting documentation be essentially complete at the initiation of the review, (2) BNL participation in requests for clarifying information (including BNL participation in formal Q's to an applicant) during the course of the review will be obtained only if it is determined that it is needed by BNL, (3) a quantitative evaluation of the core melt frequency will be performed, and (4) a qualitative evaluation of uncertainties will be performed.

However, a comprehensive review of the PRA, that is, one that will include a quantitative uncertainty assessment and an importance/sensitivity analysis, will require an additional 10 staff-months of effort. We believe that a quantitative uncertainty analysis that provides the range of possible values of the core damage frequency (and of accident sequences) along with the corresponding likelihood of each value and an importance analysis that enables the performance of various sensitivity studies, are essential parts of the PRA review and will greatly facilitate and rationalize the associated regulatory decision making.

We expect that the total level of effort for a comprehensive PRA review will decrease from the presently estimated three staff years (for a Level 1 PRA without external events) to a lower level, as the PRA methodology and documentation matures and stabilizes. At the present time, however, the novelty, diversity and differences of the various PRAs require the aforementioned level of effort for review.

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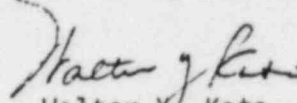
Dr. Themis P. Speis

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We are awaiting further guidance from you. If you desire any additional information in this respect, please feel free to call Dr. R. A. Bari (FTS 666-2629) or me.

Sincerely yours,


Walter Y. Kato
Deputy Chairman

WYK/dt

cc: R. A. Bari
I. A. Papazoglou
A. C. Thadani