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February 3, 1981

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: ATOMIC INDUSTRIAL FORUM COMMITTEE ON REACTOR LICENSING AND SAFETY COMMENTS ON GENERIC ASPECTS OF ALAB-603

Dear Sir:

In its Memorandum and Order (CLI-80-41) dated December 12, 1980, the Nuclear Regulatory Commission announced its decision to reconsider the generic aspects of ALAB-603 concerning the need to consider loss of all AC power (station blackout) as a design basis event. In response to the Commission's invitation to interested parties to file briefs on this matter, the Atomic Industrial Forum Committee on Reactor Licensing and Safety would like to offer comments on the two generic issues under review:

Issue 1. What are the generic implications of using the threshold probabilities in Section 2.2.3 of the Standard Review Plan as guidelines in determining the design basis events to be used for plant design and operation?

Comments

We believe that in applying the values given in Section 2.2.3 of the Standard Review Plant (SRP) as decision criteria for consideration of events such as station blackout, the ALAB has misinterpreted the staff's intent with respect to those values. It is our opinion that the values in SRP 2.2.3 were not intended for use in judging the need to design against accident sequences involving multiple system or component failures such as those which would result in station blackout. Rather, the SRP values were intended as simple screening criteria for excluding any consideration of accidents involving

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the presence or use of hazardous materials in the vicinity of a plant. It does not necessarily follow, nor do we believe that it was the staff's intent, that any set of system or component failures whose probability exceeds 10^{-6} or 10^{-7} per year should be made a design basis event. Such an interpretation would have far-reaching implications with respect to many other combinations of failures which are presently considered beyond the design basis for nuclear plants. Probabilistic risk assessments[1/] indicate that the probability of core melt from all sources can be on the order of 10^{-4} to 10^{-5} per year and still, in our judgement, adequately protect the health and safety of the public. Therefore, application of values such as 10^{-6} or 10^{-7} per year as criteria for design consideration would compel incorporation of measures to prevent or mitigate the effects of many accident sequences which are insignificant contributors to risk.

The Commission has undertaken an effort[2/] to establish quantitative safety goals. This effort should define the probabilities that should be used in evaluating probabilistic risk assessments and in decision-making regarding need for additional protective measures in plant design and operation. The values given in Section 2.2.3 of the Standard Review Plan are inappropriate and should not be used for this purpose.

Issue 2. Granting the need for protective measures against the loss of all AC power for some reasonable period of time, is designation of station blackout as a design basis event the appropriate regulatory framework in which to consider such measures pending completion of the staff generic study TAP-A-44?

Comments

The staff has already initiated actions[3/] aimed at ensuring that existing plants have reliable sources of AC power and are capable of providing core decay heat removal for some minimum time period in the event of total loss of AC power. We concur with the staff's judgment[4/] that these actions provide an

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1/ For example, WASH 1400 and the German Risk Study
2/ NUREG 0735, October 1980
3/ See Section 3 of TAP-A-44, July 1980
4/ H. Denton memo to Chairman Ahearne, dated Sept. 26, 1980

adequate basis for continued operation and licensing pending completion of TAP-A-44. Any final decision regarding the inclusion of station blackout as a design basis event should be based on comprehensive probabilistic risk assessments that include a realistic estimate of the degree of risk posed by this event sequence. The overall estimate of risk should then be compared to the established quantitative safety goals in order to determine whether and to what extent it is necessary to consider station blackout in the design of nuclear power plants. This decision-making process should be included in the staff generic study TAP-A-44 and a final decision regarding this matter should be held in abeyance until completion of those studies.

We hope that you will find these comments useful, and we would be pleased to discuss this matter with you or others at your convenience.

Sincerely,

D. Clark Gibbs, Chairman
Committee on Reactor Licensing
and Safety

Enclosures
DCG:sml

cc: Dr. J. Carson Mark, Chairman, ACRS