UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

December 11, 1998

Dr. William D. Travers
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Dr. Travers:

SUBJECT: OPTIONS FOR INCORPORATING RISK INSIGHTS INTO THE 10 CFR 50.59 PROCESS

During the 458th meeting of the Advisory Committee on Reactor Safeguards, December 3-5, 1998, we met with representatives of the NRC staff to discuss options for incorporating risk insights into the 10 CFR 50.59 (Changes, Tests and Experiments) process. Our Subcommittees on Reliability and Probabilistic Risk Assessment (RPRA), Plant Operations, and Regulatory Policies and Practices met with the staff on August 26 and November 19, 1998, to discuss this matter. We had the benefit of the documents referenced.

We appreciate the opportunity to review the staff's work during the early stages of development. We recognize that the staff's approach is still evolving, therefore, we offer several observations and recommendations without commenting on the details at this time.

Observations and Recommendations

1. The objective of this work is to develop options for making 10 CFR 50.59 risk informed. A key part of this effort must be to determine which attributes of 10 CFR 50.59 are better served by the use of risk information and which are better left alone. The description of, and the problems associated with, the existing process should be used at the outset to identify where risk information can enhance the process.

2. Any changes to 10 CFR 50.59 must both preserve and improve the desirable features of the current process. The staff's report should start off by articulating clear measures for improvement and constraints imposed by other regulations or requirements. The draft report contains several useful evaluation factors. However, the term "enhanced safety decisions" is not a useful criterion unless it is made clear in the context of the safety objectives of the NRC.

   A difficulty with 10 CFR 50.59 is the lack of a clear basis for deciding when changes are allowable without prior NRC approval. We recommend that the staff evaluate how risk information may be used to address this problem and that it be documented in the beginning of the report to guide the development of viable options, and consideration of new alternatives.

The constraints on allowable changes need to be expressed clearly in one place. Currently, references to inadequately defined terms, such as "safety status," "adequate protection," "defense-in-depth," "safety margins," and "operational safety," are scattered throughout the report. If they are to be used as constraints on the options, they need to be gathered, defined, and listed so that they can be used in a more formal way to evaluate all options on a common basis.

3. The staff has considered several options and made preliminary evaluations. Although some features of these options appear desirable, none emerges as a clear candidate for implementation. We recommend that the staff reconsider the selection of options, involving creative combinations of the best aspects of those originally considered as well as other, bolder options, such as allowing changes that do not affect the technical specifications, or affect the technical specifications but satisfy criteria similar to the extension of the Regulatory Guide 1.174 criteria, as suggested in the attachment to our July 16, 1998 report.

4. We are concerned that the staff does not have sufficient time to properly evaluate the options. We believe that more time will be needed after this preliminary effort to evaluate the candidate options in detail. For example, we would like to see a set of test cases that verify and validate the mechanics of the competing approaches. Due to schedular constraints, the staff developed only one test case regarding the reclassification of the South Texas Project essential cooling water screen wash booster pump.

5. The staff should consider the issue of combining changes. In the report, the staff cited examples of individual changes that resulted in unreviewed safety questions, yet, when combined with corrective or compensatory actions, the overall change would meet risk-informed criteria. We recommend that corrective or compensatory actions be given more prominence in allowing collective plant changes using risk insights.

We look forward to discussing this matter with the staff during future meetings.

Sincerely,

R. L. Seale

R. L. Seale
Chairman

References:

1. Draft paper received November 20, 1998, from the Office of Nuclear Regulatory Research to the Office of Nuclear Reactor Regulation, Subject: Options for Incorporating Risk Insights into 10 CFR 50.59 Process (Predecisional).
2. Report dated July 16, 1998, from R.L. Seale, Chairman, ACRS, to Shirley Ann Jackson, Chairman, NRC, Subject: Proposed Revisions to 10 CFR 50.59 (Changes, Tests and Experiments).