

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

ATTACHMENTS
2

October 21, 1997

The Honorable Shirley Ann Jackson
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Chairman Jackson:

SUBJECT: SUMMARY REPORT - FOUR HUNDRED FORTY-FIFTH MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, OCTOBER 2-
3, 1997, AND OTHER RELATED ACTIVITIES OF THE COMMITTEE

During its 445th meeting, October 2-3, 1997, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following report and letters. In addition, the Committee authorized Dr. Larkins, Executive Director, to transmit the memoranda noted below:

REPORT

- Proposed Changes to 10 CFR 50.59 and Proposed Revision 1 to Generic Letter 91-18 (Report to Shirley Ann Jackson, Chairman, NRC, from R. L. Seale, Chairman, ACRS, dated October 9, 1997)

LETTERS

- Human Performance and Human Reliability Implementation Plan (Letter to L. Joseph Callan, Executive Director for Operations, NRC, from R. L. Seale, Chairman, ACRS, dated October 8, 1997)
- Resolution of the Differing Professional Opinion Related to Steam Generator Tube Integrity (Letter to L. Joseph Callan, Executive Director for Operations, NRC, from R. L. Seale, Chairman, ACRS, dated October 10, 1997)

MEMORANDA

- Proposed Final Generic Letter, "Degradation of Steam Generator Internals" (Memorandum to L. Joseph Callan, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated October 15, 1997)

- Proposed Final Generic Letter, "Steam Generator Tube Inspection Techniques" (Memorandum to L. Joseph Callan, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated October 15, 1997)
- Proposed Final Amendments to 10 CFR Part 73, "Changes to Nuclear Power Plant Security Requirements" (Memorandum to L. Joseph Callan, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated October 15, 1997)

HIGHLIGHTS OF KEY ISSUES CONSIDERED BY THE COMMITTEE

1. Human Performance and Human Reliability Implementation Plan

The Committee heard presentations by and held discussions with representatives of the NRC staff concerning the Human Performance and Human Reliability Implementation Plan. The staff presented the vision statement, mission, strategies, and program areas of the present Plan and the status of major activities associated with the development of this Plan. The staff noted that the Plan was missing a prioritization scheme and an identified linkage to a high-level model. The ACRS members and the staff discussed the important aspects of a high-level model, which could be used to further develop the Plan, such as defining relationships between the mission and strategies and articulating a need for each activity.

Conclusion

The Committee issued a letter to the Executive Director for Operations, dated October 8, 1997, on this matter. The ACRS Subcommittee on Human Factors plans to continue the discussion of this Plan and related activities.

2. Proposed Resolution of The Differing Professional Opinion Related to Steam Generator Tube Integrity

The Committee heard presentations by and held discussions with representatives of the NRC staff and the author of the Differing Professional Opinion (DPO) concerning the proposed resolution of the issues raised in the DPO associated with steam generator tube integrity. The staff grouped the DPO issues into five related areas: nondestructive examination reliability; leakage under design-basis accident conditions including main steamline break (MSLB); increased frequency of core damage with containment bypass; nonconservative estimates of iodine spiking during depressurization transients such as an MSLB; and increases in the frequency of thermally induced tube failures under certain severe-accident scenarios. The DPO author agreed with the resolution of two of the issues, iodine

spiking and thermally induced tube failure. Also, the author agreed that the remaining three issues were properly stated by the staff, but he did not concur with the proposed resolution of these issues.

Conclusion

The Committee issued a letter to the Executive Director for Operations, dated October 10, 1997, on this matter. The Committee plans to discuss this matter after the staff has reconciled the public comments on the proposed Generic Letter and the Regulatory Guide associated with steam generator tube integrity.

3. Proposed Changes to 10 CFR 50.59 and Proposed Revision 1 to Generic Letter 91-18

The Committee heard a briefing by and held discussions with representatives of the NRC staff and the Nuclear Energy Institute (NEI) regarding SECY-97-205, "Integration and Evaluation of Results from Recent Lessons-Learned Reviews," which includes proposed changes to 10 CFR 50.59 and Revision 1 to Generic Letter 91-18, "Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions." The Committee also discussed the proposed industry guidance document NEI 96-07, "Guidelines for 10 CFR 50.59 Safety Evaluations."

Conclusion

The Committee issued a report to Chairman Jackson dated October 9, 1997, on this matter.

4. Subcommittee Report

The Committee heard a report by the Thermal-Hydraulic Phenomena Subcommittee Chairman regarding the September 29-30, 1997 meeting during which the Subcommittee continued its review of the Westinghouse Test and Analysis Program for the Passive Containment System (PCS) being conducted in support of the AP600 design certification. The key points noted included the following:

- Westinghouse intends to qualify its WGOTHIC containment Code for licensing analyses of the AP600 PCS. To qualify this Code, Westinghouse identified the relevant phenomena, completed a test and analysis program, and conducted a scaling analysis. The Subcommittee found that, while the relevant phenomena were identified, the scaling analysis requires additional work, and the major component of the test program (LST: Large Scale Test) is inadequate for qualification of the WGOTHIC Code.

- Westinghouse believes that results of the tests performed at the Large Scale Test facility demonstrated that the steam and air in the containment interior were well-mixed following a design-basis accident, and that these results can be extrapolated to the full-scale AP600 containment design. Westinghouse needs to perform additional analyses to adequately defend this position. In addition, the Subcommittee recommended that Westinghouse perform analyses in order to ensure that the PCS is not vulnerable to the effects of stratification.

Conclusion

The Thermal Hydraulic Phenomena Subcommittee plans to continue its discussion of this matter during its December 11-12, 1997 meeting.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

The Committee discussed the response from the NRC Executive Director for Operations (EDO) dated September 23, 1997, responding to ACRS comments and recommendations included in the ACRS report dated April 11, 1997, concerning risk-informed regulatory acceptance criteria for plant-specific application of safety goals.

The Committee decided that it was satisfied with the EDO's response.

OTHER RELATED ACTIVITIES OF THE COMMITTEE

During the period from September 3 through October 2, 1997, the following Subcommittee meetings were held:

- Thermal-Hydraulic Phenomena - September 29-30, 1997

The Subcommittee on Thermal-Hydraulic Phenomena met with representatives of the NRC staff to continue its review of the Westinghouse test and analysis program for the Passive Containment System being conducted in support of the AP600 design certification.

- Planning and Procedures - October 1, 1997

The Planning and Procedures Subcommittee discussed proposed ACRS activities, practices, and procedures for conducting Committee business and organizational and personnel matters relating to ACRS and its staff.

LIST OF FOLLOW-UP MATTERS FOR THE EXECUTIVE DIRECTOR FOR OPERATIONS

- The ACRS Subcommittee on Human Factors plans to review the staff progress associated with the development of the Human Performance and Human Reliability Implementation Plan.
- The Committee plans to review the proposed final Generic Letter and Regulatory Guide associated with the steam generator tube integrity after reconciliation of public comments. Also, the Committee plans to review the proposed final resolution of the issues identified in the Differing Professional Opinion (DPO) related to steam generator tube integrity as well as the public views on these DPO issues.
- The ACRS Subcommittee on Thermal-Hydraulic Phenomena plans to continue its view of the Westinghouse test and analysis program associated with the AP600 Passive Containment System during its December 11-12, 1997 meeting.
- The Committee plans to review the Advance Notice of Proposed Rulemaking associated with the proposed changes to 10 CFR 50.59.

PROPOSED SCHEDULE FOR THE 446TH ACRS MEETING

The Committee agreed to consider the following during the 446th ACRS meeting, November 6-7, 1997:

Use of Uncertainty Versus Point Values in the PRA-Related Decisionmaking Process (Open) -The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the adequacy of the guidance being provided by the staff relative to the use of uncertainty versus point values in the PRA-related decisionmaking process.

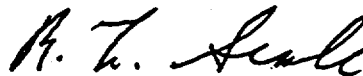
Proposed Final Generic Letter Regarding Loss of Reactor Coolant Inventory and Associated Potential for Loss of Emergency Mitigation Functions While in a Shutdown Condition (Open) -The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the proposed final Generic Letter noted above.

Meeting with the Acting Deputy Executive Director for Regulatory Effectiveness (Open) - The Committee will hear presentations by and hold discussions with the Acting Deputy Executive Director regarding regulatory excellence and related matters.

Severe Accident Management (Open) -The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the staff evaluation of the BWR Owners Group emergency procedure and severe accident guidelines and the Westinghouse severe accident guidelines.

Staff Actions Related to the Development of a Revised Fire Protection Rule (Open) -The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding staff actions related to the development of a revised Fire Protection Rule.

Sincerely,

A handwritten signature in black ink, appearing to read "R. L. Seale". The signature is fluid and cursive, with the first name "R." and last name "Seale" clearly distinguishable.

R. L. Seale
Chairman