



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

SL-0445

PDR 5/8/97

December 19, 1996

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

Dear Chairman Jackson:

SUBJECT: SUMMARY REPORT - FOUR HUNDRED THIRTY-SIXTH MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, NOVEMBER 7-9,
1996, AND OTHER RELATED ACTIVITIES OF THE COMMITTEE

During its 436th meeting, November 7-9, 1996, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following reports and letters. In addition, the Committee authorized Dr. Larkins, Executive Director, to transmit the memoranda noted below:

REPORTS

- Plant-Specific Application of Safety Goals (Report to Shirley Ann Jackson, Chairman, NRC, from T. S. Kress, Chairman, ACRS, dated November 18, 1996)
- Position on Direction Setting Issue 22 -- Future Role of NRC Research (Report to Shirley Ann Jackson, Chairman, NRC, from T. S. Kress, Chairman, ACRS, dated November 19, 1996)

LETTERS

- Proposed Rule on Steam Generator Integrity (Letter to James M. Taylor, Executive Director for Operations, NRC, from T.S. Kress, Chairman, ACRS, dated November 20, 1996)
- NRC Programs for Risk-Based Analysis of Reactor Operating Experience (Letter to James M. Taylor, Executive Director for Operations, NRC, from T. S. Kress, Chairman, ACRS, dated November 22, 1996)

MEMORANDA

- Proposed Final Regulatory Guide Pertaining to the Preparation of Petitions for Rulemaking under 10 CFR 2.802 (Memorandum to

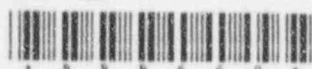
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James M. Taylor, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated November 18, 1996) - Consistent with the Committee's decision, Dr. Larkins informed Mr. Taylor that the Committee decided not to review the subject regulatory guide.

- Draft Reports Related to the Keowee Hydro Station Emergency Electrical System Supply to the Oconee Nuclear Station (Memorandum to James M. Taylor, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated November 18, 1996) - Consistent with the Committee's decision, Dr. Larkins informed Mr. Taylor that the Committee decided not to review the subject reports at this time. The Committee, however, may hear a briefing after the licensee has completed the proposed modifications identified in the subject reports.

HIGHLIGHT OF KEY ISSUES CONSIDERED BY THE COMMITTEE

1. Proposed Rule on Steam Generator Integrity

The Committee heard presentations by and held discussions with representatives of the NRC staff and the Nuclear Energy Institute, and the author of a differing professional opinion (DPO) on the proposed rule and regulatory guide concerning steam generator integrity. The staff presented the objectives, schedule, attributes, and performance criteria associated with the rulemaking. The industry expressed a desire for some relaxation of the steam generator tube repair limits, but indicated the proposed regulatory requirements were onerous. The Committee discussed the need for staff approval of the performance criteria and the methodologies for assessing compliance with the criteria, the risk worth of the rule, and the possible use of risk limits instead of frequency limits as performance criteria.

The author of the DPO stated that the assumed containment bypass frequency used by the staff is incorrect due to the staff's failure to consider steam generator tube rupture phenomenological uncertainties.

Conclusion

The Committee issued a letter to the Executive Director for Operations, dated November 20, 1996, on this matter.

2. Risk-Based Analysis of Reactor Operating Experience

The Committee heard presentations by and held discussions with representatives of the NRC staff regarding programs of the

Office for Analysis and Evaluation of Operational Data (AEOD) for risk-based analysis of reactor operating experience. The Committee discussed the overall approach and direction of the AEOD programs, including system reliability studies, risk-based performance indicators, accident sequence precursor studies, and common-cause failures.

Conclusion

The Committee issued a letter to the Executive Director for Operations, dated November 22, 1996, on this matter.

3. Revised Source Term for Operating Reactors

The Chairman of the Severe Accidents Subcommittee provided a summary of the November 6, 1996 Subcommittee meeting, concerning the draft Commission paper, "Use of the NUREG-1465 Source Term at Operating Reactors." During the Subcommittee meeting, representatives of the NRC staff, Nuclear Energy Institute (NEI), and Entergy Operations Incorporated made presentations related to the technical and licensing aspects of using the NUREG-1465 source term at operating reactors. The Entergy representative recommended early implementation of the revised source term through use of the 10 CFR 50.59 process. The NEI representative presented the industry technical approach for implementing the use of revised source terms.

Conclusion

The Committee did not take any action on this matter during this meeting. However, it plans to review these issues after the NRC staff completes the associated safety evaluation report.

4. Emergency Planning for Advanced Reactors

The Committee heard presentations by and held discussions with representatives of the NRC staff regarding NRC's evaluation of technical criteria and methods that could be used to justify simplification of emergency preparedness for reactors with greater safety margins. In addition, representatives of the NEI briefed the Committee on their views regarding the size of emergency planning zones and the existing government capabilities for responding to industrial emergencies, as well as site and meteorological considerations.

Conclusion

This briefing was for information only. No Committee action was required.

5. Nitrogen Bubble in the Reactor Coolant System at the Haddam Neck Nuclear Power Plant

The Committee heard presentations by and held discussions with representatives of the NRC staff regarding the results of the investigation by an NRC Augmented Inspection Team (AIT) of the August 28, 1996 event at the Haddam Neck Nuclear Power Plant that resulted in the formation of a nitrogen bubble in the reactor vessel and potential challenges to decay heat removal. The contributing causes for this event cited by the AIT include: lack of a questioning attitude, poor decision-making, poor equipment condition and lack of adequate instrumentation, poor procedures, inadequate training, and inappropriate planning and scheduling. The staff issued an Information Notice referencing this event, and additional generic action is being considered.

ACRS Members questioned the application of PRA to the safety aspects of shutdown operations, and expressed the belief that there is a need for a requirement to ensure continuous monitoring of an unambiguous indication of the reactor vessel water level.

Conclusion

This briefing was for information only. The Committee did not take any action at this meeting. However, it plans to consider the need for a requirement to ensure continuous monitoring of an unambiguous indication of the reactor vessel water level and the other related issues during future meetings.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

The Committee discussed the response from the NRC Executive Director for Operations dated November 1, 1996, responding to ACRS comments and recommendations included in the ACRS report dated October 23, 1996, concerning the Draft Update of Standard Review Plan, Chapter 7, "Instrumentation and Controls."

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

OTHER RELATED ACTIVITIES OF THE COMMITTEE

During the period from October 10 through November 6, 1996, the following Subcommittee meetings were held:

- Regulatory Policies and Practices - October 17-19, 1996

The Subcommittee discussed issues associated with the risk-informed, performance-based regulatory approach, requirements for defense-in-depth, use of PRA in the regulatory process, the annual ACRS Report to Congress on the NRC Safety Research Program, effectiveness of the Committee process in dealing with its activities, rebaselining of Committee activities for 1997, and other activities related to the conduct of ACRS business.

- Probabilistic Risk Assessment/Plant Operations - October 30 - November 1, 1996

On October 30, 1996, the Subcommittees continued their review of AEOD programs associated with risk-based analysis of reactor operating experience including accident sequence precursors, risk-based performance indicators, and common cause failures. On October 31 - November 1, 1996, the Subcommittees discussed the NRC staff's approach to codifying risk-informed, performance-based regulation through development of Standard Review Plan sections and associated regulatory guides.

- Materials and Metallurgy/Severe Accidents - November 5-6, 1996

The Subcommittees reviewed the proposed performance-based steam generator integrity rule and an associated regulatory guide.

- Severe Accidents - November 6, 1996

The Subcommittee reviewed the draft Commission paper, "Use of the NUREG-1465 Source Term at Operating Reactors."

- Planning and Procedures - November 5, 1996

The 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 Committee decided not to review the proposed final Regulatory Guide pertaining to the Preparation of Petitions for Rulemaking under 10 CFR 2.802. [A memorandum was sent to James M. Taylor, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated November 18, 1996.]

- The Committee decided not to review the Draft Reports related to the Keowee Hydro Station Emergency Electrical System Supply to the Oconee Nuclear Station at this time. The Committee, however, may request a briefing after the licensee has completed the proposed modifications identified in the associated reports. [A memorandum was sent to James M. Taylor, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated November 18, 1996.]
- The Committee decided not to comment on the draft Commission paper, "Use of the NUREG-1465 Source Term at Operating Reactors, at this time." The Committee plans to review the use of the new source term at operating reactors after the staff completes the associated safety evaluation report.
- The Committee reviewed and summarized the contentions in a differing professional opinion (DPO) related to the proposed rule and regulatory guide concerning steam generator integrity. The Committee urged the staff to prepare a point-by-point response to the issues in the DPO before issuing the proposed rule. [A letter was sent to James M. Taylor, Executive Director for Operations, NRC, from T. S. Kress, Chairman, ACRS, dated November 20, 1996.]

PROPOSED SCHEDULE FOR THE 437TH ACRS MEETING

The Committee agreed to consider the following matters during the 437th ACRS Meeting, December 5-7, 1996:

Proposed Standard Review Plan (SRP) Sections and Regulatory Guides Associated with Risk-Informed, Performance-Based Regulation - The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the proposed SRP sections and regulatory guides associated with risk-informed, performance-based regulation, and related matters. Representatives of the nuclear industry will participate, as appropriate.

NRC Research Program on Instrumentation and Control Systems - The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the ongoing and proposed research activities in the area of instrumentation and control systems. Representatives of the nuclear industry will participate, as appropriate.

Plant Aging Research Program - The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the ongoing and proposed research activities associated with plant aging. Representatives of the nuclear industry will participate, as appropriate.

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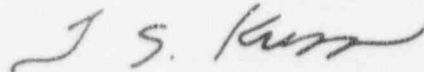
Human Performance Program Plan - The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding ongoing and proposed activities associated with the NRC Human Performance Program Plan. Representatives of the nuclear industry will participate, as appropriate.

Meeting with the NRC Commissioners - The Committee will meet with the NRC Commissioners to discuss items of mutual interest, including the following:

- Digital Instrumentation and Control Systems
- Office of Nuclear Regulatory Research Plan for Upgrading NRC Thermal-Hydraulic Codes
- Risk-Informed, Performance-Based Regulation and Related Matters
- Potential Use of IPE/IPEEE Results to Compare the Risk of the Current Population of Plants with the Safety Goals
- Use of Safety Goals on a Plant-Specific Basis
- Use of RuleNet in the Regulatory Process

NRC Emergency Response Program - The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding modifications to the NRC Emergency Response Program.

Sincerely



T. S. Kress
Chairman