

UNITED STATES NUCLEAR REGULATORY COMMISSION ADVISORY COMMITTEE ON REACTOR SAFEGUARDS WASHINGTON, D. C. 20556

SL-0433 PDR 11/30/95

October 4, 1995

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

Dear Chairman Jackson:

SUBJECT: SUMMARY REPORT - FOUR HUNDRED TWENTY-FOURTH MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, SEPTEMBER 7-8, 1995, AND OTHER RELATED ACTIVITIES OF THE COMMITTEE

During its 424th meeting, September 7-8, 1995, 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 memorandum noted below:

REPORT

Development of Improved Nondestructive Examination (NDE)
Techniques (Report to The Honorable Shirley A. Jackson,
Chairman, NRC, from T.S. Kress, Chairman, ACRS, dated September 15, 1995)

LETTERS

Proposed Resolution of Generic Issue 24, "Automatic ECCS Switchover to Recirculation" (Letter to James M. Taylor, Executive Director for Operations, NRC, from T. S. Kress, Chairman, ACRS, dated September 12, 1995)

Health Effects Valuation (Letter to James M. Taylor, Executive Director for Operations, NRC, from T. S. Kress, Chairman, ACRS, dated September 13, 1995)

The Nuclear Energy Institute Petition for Rulemaking to Amend 10 CFR 50.48, "Fire Protection" (Letter to James M. Taylor, Executive Director for Operations, NRC, from T. S. Kress, Chairman, ACRS, dated September 15, 1995)

MEMORANDUM

Proposed Revision 1 to Regulatory Guide 1.153, "Criteria for Safety Systems" (Draft Regulatory Guide DG-1042) (Memorandum to James M. Taylor, Executive Director for Operations, NRC,

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from John T. Larkins, Executive Director, ACRS, dated September 13, 1995) - Consistent with the Committee's decision, Dr. Larkins informed Mr. Taylor that the Committee decided not to comment on the proposed revision to Regulatory Guide 1.153.

HIGHLIGHTS OF KEY ISSUES CONSIDERED BY THE COMMITTEE

1. Action Plan Associated with Metal Fatique

The Committee heard presentations by and held discussions with representatives of the NRC staff regarding the status of its fatigue action plan, which was formulated to resolve generic safety issue (GSI) 78, "Monitoring of Fatigue Transient Limits for Reactor Coolant Systems," and GSI-166, "Adequacy of Fatigue Life of Metal Components." The staff concluded that no additional actions were required for operating plants. The staff is continuing work to resolve metal fatigue issues in relation to license renewal. The staff presented the results of a parametric probabilistic risk assessment (PRA) that supported closeout of GSI-78.

Conclusion

The Committee decided to defer further action on this matter pending receipt of information on the quantification of uncertainties associated with the PRA that was performed to support the resolution of GSI-78.

2. Maintenance Rule Inspection Procedures

The Committee heard presentations by and held discussions with representatives of the NRC staff and the industry regarding the inspection procedures for evaluating the implementation of the Maintenance Rule. The staff presented the lessons learned from nine pilot plant inspections. These lessons are being incorporated into revisions of the following guidance documents: Industry Guidance Document - NUMARC 93-01, "Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants;" NRC Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants;" and NRC Inspection Procedure IP 62706, "Maintenance Rule." The staff concluded that the performance-based approach is workable and that the Maintenance Rule can be implemented and enforced.

Conclusion

The Committee took no action based on this information briefing.

3. Activities Associated with the Development of Improved Nondestructive Examination (NDE) Techniques

In the June 16, 1995 SRM, the Commission asked the ACRS to assist the staff in encouraging the industry to develop improved NDE techniques for steam generator tube inspections. In this regard, the Committee heard presentations by and held discussions with representatives of the staff, the Electric Power Research Institute, B&W Nuclear Technologies, ABB Combustion Engineering, Zetec, and the Westinghouse Electric Corporation regarding the ongoing and proposed activities to improve NDE techniques for detecting and assessing steam generator tube defects. The staff discussed the elements of a proposed rulemaking and plans for a steam generator tube test assembly that are expected to encourage the development and validation of new NDE techniques. The vendors discussed the development of new combination eddy-current probes, ultrasonic probes, in situ florescent dye-penetrant techniques, and in situ burst-pressure measurement probes. The Committee and presenters also discussed the signal processing used in analyzing the probe outputs and the qualification of NDE techniques.

Conclusion

The Committee issued a report to Chairman Jackson, dated September 15, 1995, on this subject.

4. Operator Licensing Examination Process

The staff discussed the current operator licensing examination program and the planned changes described in NRC Generic Letter 95-06, "Proposed Changes to the NRC Operator Licensing Program." The staff expects to save between \$3-4 million in NRC contractor expenses (about 50% of current NRC examination effort) by requiring utilities to formulate their own initial operator licensing examinations. The staff would continue to review and approve the written examination and administer the operating test.

Conclusions

The Committee took no action based on this information briefing.

5. Institute of Nuclear Power Operations (INPO) Event Assessment Process

The Committee heard presentations by and held discussions with INPO representatives concerning the Significant Event Evaluation and Information Network (SEE-IN) Program. Topics discussed included INPO's actions relative to the receipt of operating experience reports, evaluation of their significance, and issuance of action documents. The INPO representatives explained its role as the U.S. representative of the World Association of Nuclear Operators relative to the receipt and dissemination of foreign event reports. INPO representatives acknowledged a recent industry peer audit that revealed a need to improve INPO's ability to translate foreign events into meaningful information for U.S. utilities.

Conclusions

The Committee took no action based on this information briefing.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

The Committee discussed the response from the NRC Executive Director for Operations dated July 21, 1995, responding to comments and recommendations included in the ACRS letter dated June 16, 1995, concerning the proposed final rule and Regulatory Guide for fracture toughness requirements for light water reactor pressure vessels.

The Committee decided that the EDO response was satisfactory.

• The Committee discussed the response from the NRC Executive Director for Operations dated August 4, 1995, responding to comments and recommendations included in the ACRS letter dated May 17, 1995, concerning the methodology being applied by NRR for reviewing the acceptability of best-estimate calculations of emergency core cooling system performance.

The Committee decided that this issue would be discussed further during future ACRS Subcommittee and Full Committee meetings.

• The Committee discussed the response from the NRC Executive Director for Operations dated August 8, 1995, responding to comments and recommendations included in the ACRS letter dated June 15, 1995, concerning the

Commission paper on technical issues pertaining to the Westinghouse AP600 design.

The Committee decided that the issues would be discussed further during the continuing ACRS review of the AP600 design.

• The Committee discussed the response from the NRC Executive Director for Operations dated September 1, 1995, responding to comments and recommendations included in the ACRS letter dated July 20, 1995, concerning health effects valuation.

The Committee decided the EDO response was not satisfactory and issued a letter on September 13, 1995.

• The Committee discussed the response from the NRC Executive Director for Operations dated August 31, 1995, responding to comments and recommendations included in the ACRS letter dated July 20, 1995, concerning the proposed priority ranking of the ninth group of generic issues.

The Committee decided the EDO response was satisfactory.

OTHER RELATED ACTIVITIES OF THE COMMITTEE

During the period from July 8 - September 7, 1995, the following Subcommittee meetings were held:

Technical Training Programs - July 12, 1995

The Subcommittee on Technical Training Programs reviewed current courses, particularly those on probabilistic risk assessment and instrumentation and control systems. The Subcommittee also discussed how the NRC training programs would respond to the changing needs of the agency.

Thermal Hydraulic Phenomena - July 26-27, 1995

The Subcommittee on Thermal Hydraulic Phenomena met to continue its review of the W COBRA/TRAC best-estimate Emergency Core Cooling System (ECCS) code. This code will be used to support ECCS large-break loss-of-coolant accident analyses for both current plants and, eventually, the AP600 passive plant design.

Planning and Procedures - September 6, 1995

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

During the 424th meeting, the Full Committee decided not to review Generic Letter 95-xx "Revised Contents of the Monthly Operating Report."

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

Based on the staff's decision to retain the undiscounted \$1000 value for all base case value-impact analyses, the Committee continues to recommend the use of a discounted \$2000 per person-rem value. [A letter was sent to James M. Taylor, Executive Director for Operations, NRC, from T.S. Kress, Chairman, dated September 13, 1995.]

PROPOSED SCHEDULE FOR THE 425TH ACRS MEETING

The Committee agreed to consider the following during the 425th ACRS Meeting, October 5-7, 1995:

Proposed Final Revision 1 to Regulatory Guide 1.152. "Criteria for Programmable Digital Computer Systems Software in Safety-Related Systems of Nuclear Power Plants." - The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the proposed final Revision 1 to Regulatory Guide 1.152.

Meeting with the Director of the Office of Nuclear Regulatory Research (RES) - The Committee will hear presentations by and hold discussions with the RES Director on current research programs and potential research needs.

National Academy of Sciences (NAS) and Engineering Study on Application of Digital Instrumentation and Control Technology to Nuclear Power Plants - The Committee will hear presentations by and hold discussions with the Chairman of the NAS Committee, which was formed to study digital I&C issues, regarding the findings and recommendations of NAS contained in its Phase I report.

Shutdown Cooling Bypass Event at Hope Creek Nuclear Plant - The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the findings and recommendations of the Special Inspection Team that evaluated the July 7-9, 1995 shutdown cooling bypass event at the Hope Creek Nuclear Plant.

Foreign Reactor Events Involving Human Factor Issues - The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding foreign reactor events involving human factor issues.

Supplement 5 to Generic Letter 88-20. IPE for External Events for Severe Accident Vulnerabilities - The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding Supplement 5 to Generic Letter 88-20.

<u>Strategic Planning</u> - The Committee will discuss items that are of importance to the NRC, including rebaselining of the Committee activities for FY 96-97.

Sincerely,

T. S. Kress

J. S. Kuss

Chairman