



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

SL-0442

PDR 10/3/96

August 29, 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-THIRD MEETING OF THE  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, AUGUST 8-10,  
1996, AND OTHER RELATED ACTIVITIES OF THE COMMITTEE

During its 433rd meeting, August 8-10, 1996, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following reports. In addition, the Committee authorized Dr. Larkins, Executive Director, to transmit the memoranda noted below:

REPORTS

- Design Changes Proposed by ASEA Brown Boveri - Combustion Engineering Relating to the Certification of the System 80+ Design (Report to Shirley Ann Jackson, Chairman, NRC, from T.S. Kress, Chairman, ACRS, dated August 14, 1996.)
- SECY-96-128, "Policy and Key Technical Issues Pertaining to the Westinghouse AP600 Standardized Passive Reactor Design" (Report to Shirley Ann Jackson, Chairman, NRC, from T.S. Kress, Chairman, ACRS, dated August 15, 1996.)
- Design Changes Proposed by General Electric Nuclear Energy Relating to the Certification of the U.S. Advanced Boiling Water Reactor Design (Report to Shirley Ann Jackson, Chairman, NRC, from T.S. Kress, Chairman, ACRS, dated August 15, 1996.)
- Risk-Informed, Performance-Based Regulation and Related Matters (Report to Shirley Ann Jackson, Chairman, NRC, from T.S. Kress, Chairman, ACRS, dated August 15, 1996.)

MEMORANDA

- Proposed Revision 3 to Regulatory Guide 1.8, "Qualification and Training of Personnel for Nuclear Power Plants" (Memorandum to James M. Taylor, Executive Director for Operations, from John T. Larkins, Executive Director, ACRS, dated August 13, 1996) - Consistent with the Committee's decision, Dr.

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Larkins informed Mr. Taylor that the Committee decided to review the proposed final version of the subject Regulatory Guide following reconciliation of public comments by the staff. The Committee has no objection to the NRC staff proposal to issue the proposed Regulatory Guide for public comment.

- Draft Standard Review Plans on Antitrust and Power Reactor Licensee Financial Qualifications & Decommissioning Funding Assurance (Memorandum to James M. Taylor, Executive Director for Operations, from John T. Larkins, Executive Director, ACRS, dated August 14, 1996) - Consistent with the Committee's decision, Dr. Larkins informed Mr. Taylor that the Committee decided not to review the subject Standard Review Plans.
- Proposed Revisions to Regulatory Guides 1.84, 1.85, and 1.147 Pertaining to ASME Code Cases (Memorandum to James M. Taylor, Executive Director for Operations, from John T. Larkins, Executive Director, ACRS, dated August 14, 1996) - Consistent with the Committee's decision, Dr. Larkins informed Mr. Taylor that the Committee decided not to review the proposed revisions to the subject Regulatory Guides. The Committee would like to have the opportunity to review future regulatory guides that pertain to ASME Division 1 Code Cases.
- Rulemaking Plan for Amendments to 10 CFR 73.55, Changes to Nuclear Power Plant Security Requirements (Memorandum to James M. Taylor, Executive Director for Operations, from John T. Larkins, Executive Director, ACRS, dated August 14, 1996) - Consistent with the Committee's decision, Dr. Larkins informed Mr. Taylor that the Committee decided not to review the subject Rulemaking Plan.
- Proposed Revision 3 to the Regulatory Guide 1.105, "Instrument Setpoints for Safety Systems" (Draft Regulatory Guide DG-1045) (Memorandum to James M. Taylor, Executive Director for Operations, from John T. Larkins, Executive Director, ACRS, dated August 16, 1996) - Consistent with the Committee's decision, Dr. Larkins informed Mr. Taylor that the Committee decided to review the proposed final version of the subject Regulatory Guide following reconciliation of public comments by the staff. The Committee has no objection to the NRC staff proposal to issue the proposed Regulatory Guide for public comment.

HIGHLIGHTS OF KEY ISSUES CONSIDERED BY THE COMMITTEE

1. Supplemental Safety Evaluation Reports for Evolutionary Plant Designs

The Committee reviewed recent design changes proposed by General Electric Nuclear Energy and ASEA Brown Boveri - Combustion Engineering relating to the certification of the U.S. Advanced Boiling Water Reactor (ABWR) and the System 80+ designs, respectively.

The design changes consisted of both modifications to the designs and corrections to the documentation to remove inconsistencies and typographical errors.

As a result of its review, the Committee continues to believe that acceptable bases and requirements have been established in the applications to ensure that the U.S. ABWR and System 80+ Standard Designs can be used to engineer and construct plants that with reasonable assurance can be operated without undue risk to the health and safety of the public.

Conclusion

The Committee issued two reports to Chairman Jackson, dated August 14, 1996 and August 15, 1996, on this matter.

2. SECY-96-128, "Policy and Key Technical Issues Pertaining to the Westinghouse AP600 Standardized Passive Reactor Design"

The Committee heard presentations by and held discussions with representatives of the NRC staff and Westinghouse Electric Corporation concerning the proposed staff positions related to three policy issues pertaining to the AP600 design: prevention and mitigation of severe accidents, external reactor vessel cooling, and post-72-hour actions. The Committee also discussed the status of resolution of seven technical issues listed in SECY-96-128, especially the new technical issue on spent fuel pool cooling. The Committee plans to discuss the resolution of these technical issues during future meetings.

Conclusion

The Committee issued a report to Chairman Jackson, dated August 15, 1996, on this matter.

3. Risk-Informed and Performance-Based Regulations and Related Matters

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

in the Staff Requirements Memorandum dated May 15, 1996, including: the use of the Commission's safety goals for plant-specific applications, accounting for uncertainty in risk-informed and performance-based regulations, requirements for risk neutrality versus allowance for acceptable increase in risk, pilot applications for risk-informed and performance-based regulations, and the role of performance-based regulation in the PRA Implementation Plan.

The ACRS plans to continue its interaction with the staff in the development of regulatory guidance and a standard review plan for performing and reviewing PRAs. The Committee will also continue its discussion of the application of the safety goals on a plant-specific basis and other issues related to risk-informed and performance-based regulations during future meetings.

#### Conclusion

The Committee issued a report to Chairman Jackson, dated August 15, 1996, on this matter.

#### 4. Spent Fuel Pool Cooling Issues

Representatives of the Office of Nuclear Reactor Regulation (NRR) briefed the Committee regarding the resolution of the issues included in the spent fuel pool cooling action plan. The NRR staff presented the conclusions of a survey conducted by NRR, assisted by the regions, regarding the spent fuel pool cooling issues. This survey covered two activities that measured the extent to which problems encountered at Millstone Unit 1, regarding compliance with the Final Safety Analysis Report (FSAR), occurred at other facilities. The first activity, which was the focus of the survey, compared current refueling practices against the licensing basis (drawn from the FSAR, Technical Specifications, license amendments, and other docketed correspondence) for decay heat removal from spent fuel pools for all operating plants. The second activity was to review the licensees' compliance with other revised NRC inspection guidance.

Based on the survey, the staff concluded that spent fuel pool cooling systems and backup cooling capability at the existing plants are adequate. System design features and licensee operating practices were found to be adequate in ensuring protection of public health and safety.

Representatives of the Office for Analysis and Evaluation of Operational Data (AEOD) stated that AEOD is performing a study on the spent fuel pool cooling issues at the request of the Executive Director for Operations and it is scheduled to be

completed by the end of September 1996. The Committee plans to discuss the results of this study when they are available.

#### Conclusion

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

#### RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee discussed the response from the NRC Executive Director for Operations dated June 21, 1996, responding to ACRS comments and recommendations included in the ACRS report dated June 6, 1996, concerning Regulatory Guidance Documents related to Digital Instrumentation and Control Systems.

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

- The Committee discussed the response from the NRC Executive Director for Operations dated June 28, 1996, responding to ACRS comments and recommendations included in the ACRS report dated June 4, 1996, concerning Proposed Rule on Shutdown Operations.

The Committee decided that it would continue its discussion of this issue.

- The Committee discussed the response from the NRC Executive Director for Operations dated July 18, 1996, responding to ACRS comments and recommendations included in the ACRS report dated June 6, 1996, concerning Potential Use of IPE/IPEEE Results to Compare the Risk of the Current Population of Plants with the Safety Goals.

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

- The Committee discussed the response from the NRC Executive Director for Operations dated July 26, 1996, responding to ACRS comments and recommendations included in the ACRS report dated June 28, 1996, concerning Severe Accident Research.

During its September 12-13, 1996 meeting, the Committee is scheduled to discuss with the NRC staff the capability of NRC codes to assess the likelihood of steam generator tube ruptures during a severe accident. Subsequent to this discussion, the Committee plans to provide comments concerning this matter.



OTHER RELATED ACTIVITIES OF THE COMMITTEE

During the period from June 13 to August 8, 1996, the following Subcommittee meetings were held:

- Probabilistic Risk Assessment & Plant Operations - July 17-18, 1996

The Subcommittees on Probabilistic Risk Assessment (PRA) and Plant Operations discussed risk-based analysis of reactor operating events, the role of performance-based regulation in the PRA Implementation Plan, the plant-specific application of safety goals, the requirement for risk neutrality versus the allowance for an acceptable increase in risk, risk-informed inservice testing and inservice inspection requirements, the methods for judging the acceptability and unacceptability of assumptions and models used in performing PRAs, and the pilot applications for risk-informed and performance-based regulations.

- Westinghouse Standard Plant Designs - July 19, 1996

The Subcommittee on Westinghouse Standard Plant Designs discussed SECY-96-128, "Policy and Key Technical Issues Pertaining to the Westinghouse AP600 Standardized Passive Reactor Design," which contains proposed staff positions on three policy issues: the prevention and mitigation of severe accidents, post-72-hour actions, and external reactor vessel cooling, as well as the status of resolution of seven key technical issues.

- Planning and Procedures - August 6, 1996

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.

- Probabilistic Risk Assessment - August 7, 1996

The Subcommittee on Probabilistic Risk Assessment discussed risk-based inservice testing and inservice inspection requirements, pilot applications for risk-informed and performance-based regulations, and related matters, as well as issues identified in the Staff Requirements Memoranda of May 15 and June 11, 1996.

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

- The Committee decided to review the proposed final version of Revision 3 to Regulatory Guide 1.8, "Qualification and

Training of Personnel for Nuclear Power Plants" after the staff has reconciled the public comments. The Committee has no objection to the NRC staff proposal to issue the proposed Regulatory Guide for public comment. [A memorandum was sent to James M. Taylor, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated August 13, 1996.]

- The Committee decided to review the proposed Revision 3 to Regulatory Guide 1.105, "Instrument Setpoints for Safety Systems" (Draft Regulatory Guide DG-1045) after the staff has reconciled the public comments. The Committee has no objection to the NRC staff proposal to issue the proposed Regulatory Guide for public comment. [A memorandum was issued to James M. Taylor, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated August 16, 1996.]
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- The Committee decided not to review the Draft Standard Review Plans on Antitrust and Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance. [A memorandum was sent to James M. Taylor, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated August 14, 1996.]
- The Committee decided not to review the Rulemaking Plan for Amendments to 10 CFR 73.55, Changes to Nuclear Power Plant Security Requirements. [A memorandum was sent to James M. Taylor, Executive Director for Operations, from John T. Larkins, Executive Director, ACRS, dated August 14, 1996.]

#### PROPOSED SCHEDULE FOR THE 434TH ACRS MEETING

The Committee agreed to consider the following during the 434th ACRS Meeting, September 12-13, 1996:

Adequacy of the Codes to Analyze Steam Generator Tube Temperature Distributions During Severe Accidents - The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the adequacy of the NRC codes to analyze steam generator tube temperature distributions during severe-accident conditions.

Representatives of the industry will participate, as appropriate.

Indian Point Unit 3 - The Committee will hear presentations by and hold discussions with representatives of the Indian Point Unit 3 licensee (New York Power Authority) regarding the resolution of issues that led to the shutdown of Indian Point Unit 3, and the status of resolution of new issues since the restart of the plant in June 1995.

Representatives of the NRC staff will participate.

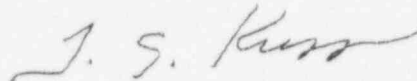
Meeting with the Director of the NRC Office of Nuclear Regulatory Research (RES) - The Committee will hear a presentation by and hold discussions with Mr. David Morrison, RES Director, on items of mutual interest including:

- Overview of the NRC research program and budget
- Research priorities
- NRC thermal-hydraulic code activities
- International cooperative research program
- RES plans and priorities for providing information necessary for the development of risk-informed and performance-based regulations by expanding the scope of NUREG-1150 work to include a Level 3 PRA for shutdown modes of operation, fire, and other external events; the rationale for these plans and priorities; and ongoing and planned research for use in performing such PRAs for other modes of operation

Loss of Feedwater Event at Arkansas Nuclear One Unit 1 - The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the findings and conclusions of the Augmented Inspection Team, which investigated the May 19, 1996, loss of feedwater event at Arkansas Nuclear One Unit 1.

Representatives of the licensee will participate, as appropriate.

Sincerely,



T. S. Kress  
Chairman





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

October 3, 1996

MEMORANDUM FOR: Jim McKnight  
Document Control Branch

FROM: Ethel Barnard *EMB*  
Advisory Committee on Reactor Safeguards

The attached ACRS Documents are being provided to you for listing on the accessions list. Please forward to the Public Document Room.

Attachments:  
As Stated

## ACRS MEETING MINUTES AND OTHER DOCUMENTS

(PDR 100396)

- 1) ACRS-2995 427th ACRS Meeting, 12/7-8/95
- 2) ACRS-3001 Probabilistic Risk Assessment Subcommittee Meeting, 2/27-28/96
- 3) ACRS-3002 Fire Protection Subcommittee Meeting, 2/29/96
- 4) ACRS-3004 Instrumentation & Control Systems and Computers, Subcommittee Meeting, 3/6/96
- 5) ACRS-3006 429th ACRS Meeting, 3/7-9/96
- 6) ACRS-3007 Extreme External Phenomena Subcommittee Meeting, 4/3/96
- 7) ACRS-3008 Severe Accidents Subcommittee Meeting, 4/8/96
- 8) ACRS-3009 Reactor Fuels Subcommittee Meeting, 4/10/96
- 9) ACRS-3011 430th ACRS Meeting, 4/11-13/96
- 10) ACRS-3013 Plant Operations Subcommittee Meeting, 5/21/96
- 11) ACRS-3015 Planning and Procedures Subcommittee Meeting, 5/22/96
- 12) ACRS-3016 431st ACRS Meeting, 5/23-25/96
- 13) ACRS-3017 Joint Materials & Metallurgy and Severe Accidents, Subcommittees Meeting, 6/3-4/96
- 14) ACRS-3018 Joint Probabilistic Risk Assessment and Westinghouse , Subcommittees Meeting, 6/5/96
- 15) ACRS-3019 Planning and Procedures Subcommittee Meeting, 6/11/96
- 16) ACRS-3021 432nd ACRS Meeting, 6/12-14/96
- 17) ACRS-3023 Westinghouse Standard Plant Designs, Subcommittee Meeting, 7/19/96
- 18) ACRS-3024 Planning and Procedures Subcommittee Meeting, 8/6/96
- 19) SL-0440 Kress ACRS ltr 06/26/96 to Jackson, Summary Report - Four Hundred Thirty-First Meeting of the ACRS, 05/23-25/96, and Other Related Activities of the Committee
- 20) SL-0441 Kress ACRS ltr 07/25/96 to Jackson, Summary Report - Four Hundred Thirty-Second Meeting of the ACRS, 06/12-14/96, and Other Related Activities of the Committee
- 21) SL-0442 Kress ACRS ltr 08/29/96 to Jackson, Summary Report - Four Hundred Thirty-Third Meeting of the ACRS, 08/08-10/96, and Other Related Activities of the Committee
- 22) Summers memo 10/2/96, Release of Background Documents re the Review of Health Effects of Low-Levels of Ionizing Radiation