

August 9, 2000

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

SUBJECT: SUMMARY REPORT - 474TH MEETING OF THE ADVISORY
COMMITTEE ON REACTOR SAFEGUARDS, ON JULY 12-14, 2000, AND
OTHER RELATED ACTIVITIES OF THE COMMITTEE

Dear Chairman Meserve:

During its 474th meeting on July 12-14, 2000, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following report and letter. In addition, the Committee authorized Dr. Larkins, Executive Director of the ACRS, to transmit the memoranda noted below:

REPORT

- Nuclear Energy Institute Letter Dated January 19, 2000, Addressing NRC Plans for Risk-Informing the Technical Requirements in 10 CFR Part 50 (Report to Richard A. Meserve, Chairman, NRC, from Dana A. Powers, Chairman, ACRS, dated July 20, 2000)

LETTER

- Proposed Final ASME Standard for Probabilistic Risk Assessment for Nuclear Power Plant Applications (Letter to William D. Travers, Executive Director for Operations, NRC, from Dana A. Powers, Chairman, ACRS, dated July 20, 2000)

MEMORANDA

- Draft Regulatory Guides (Memorandum to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated July 14, 2000)
- Topical Report BAW-2374, "Justification for Not Including Postulated Breaks in Large-Bore Reactor Coolant System Piping in the Licensing Basis for Existing and

Replacement Once-Through Steam Generators” (Memorandum to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated July 17, 2000)

- Proposed Revision 3 to Regulatory Guide 1.52, “Design, Inspection, and Testing Criteria for Air Filtration and Adsorption Units of Post-Accident Engineered-Safety-Feature Atmosphere Cleanup Systems in Light-Water-Cooled Nuclear Power Plants” (Memorandum to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated July 18, 2000)
- Proposed Rule, 10 CFR Part 55, “Operator License Eligibility and Use of Simulation Facilities in Operator Licensing” (Memorandum to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated July 18, 2000)
- Proposed Final Regulatory Guidance Documents Regarding Use of Risk-Informed Decisionmaking in License Amendment Reviews (Memorandum to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated July 20, 2000)
- Assessment of the Quality of PRAs (Memorandum to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated July 27, 2000)

HIGHLIGHTS OF KEY ISSUES CONSIDERED BY THE COMMITTEE

1. Activities Associated With Risk-Informing 10 CFR Part 50

The Committee heard presentations by and held discussions with representatives of the NRC staff and the Nuclear Energy Institute (NEI) concerning proposed risk-informed revisions to 10 CFR Part 50. The Committee discussed the staff’s plans for reconciling public comments on the advance notice of proposed rulemaking (10 CFR 50.69 and Appendix T to 10 CFR Part 50), proposed revision to 10 CFR 50.44 concerning combustible gas control systems, and issues and priorities in the NEI letter dated January 19, 2000. The Committee discussed plans for future meetings concerning the advance notice of proposed rulemaking and staff plans to revise its framework (SECY-00-0086) for risk-informing the technical requirements of 10 CFR Part 50. The ACRS Subcommittee on Reliability and Probabilistic Risk Assessment met on June 28 and 29, 2000, to discuss these matters.

The Committee discussed NEI’s assertions that (1) a regulatory guide would be a more appropriate approach than the proposed Appendix T related to Option 2, (2)

Option 3 is largely risk based rather than risk informed, and (3) concern that risk criteria proposed for use in Option 3 will be used as a quantitative measure for adequate protection.

Conclusion

The Committee issued a report to Chairman Meserve dated July 20, 2000, concerning issues and priorities in the NEI letter dated January 19, 2000. The Committee decided to continue its review of matters related to 10 CFR Part 50 during the meeting on August 29-September 1, 2000, when the staff's draft Commission papers are expected to be available.

2. Assessment of the Quality of the Probabilistic Risk Assessment

The Committee heard presentations by and held discussions with representatives of the NRC staff concerning the assessment of the quality of probabilistic risk assessments (PRAs). This presentation was a continuation of the presentation made by the staff during the Committee meeting on June 7-9, 2000. At that time, the proposed Commission paper was not yet available to the Committee. The draft Commission paper provided to the Committee for this meeting was being revised and a final version was not available. Because the Commission paper was being revised, the Committee discussion was more general and was based on the previous information provided to the Committee. Specifically, the Committee discussed with the staff the need to revise the current version of the paper to relocate the statement on PRA quality to the beginning of the paper. Much of the discussion related to the definition of the quality of a PRA and whether the decisionmaking process will affect it. The Committee questioned whether the development of this Commission paper was a duplication of effort in view of the PRA standards being developed by the American Society of Mechanical Engineers (ASME), the American Nuclear Society, and the National Fire Protection Association. The staff believes that this effort will aid in the review of the standards being developed.

Conclusion

As authorized by the Committee, the ACRS Executive Director issued a memorandum dated July 20, 2000, to the NRC Executive Director for Operations indicating that the Committee decided to defer comment on the Commission paper until it receives the revised version.

3. Proposed Final ASME Standard for PRA Quality

The Committee heard presentations by and held discussions with representatives of the ASME Committee on Nuclear Risk Management (CNRM) concerning the proposed final "Standard for Probabilistic Risk Assessment (PRA) for Nuclear Power Plant Applications" and the associated White Paper dated June 13, 2000, on this matter. The Committee and ASME representatives discussed the CNRM membership and development process, the scope and purpose of the standard development effort, major changes from the draft #10 version to the draft #12 version presently being considered, differences between the three categories, including treatment of uncertainties, comments from the June 2000 public workshop, and relationship to industry certification processes.

Conclusion

The Committee provided a letter to the Executive Director for Operations on this matter dated July 20, 2000.

4. Annual Report to the Commission on the NRC Safety Research Program

The Committee discussed the research the NRC should be performing to sustain and improve the initiative for risk-informed regulation. Examples of these research programs could be the PRA methods and capabilities, human reliability, and other ancillary and support research, such as thermal-hydraulics, corrosion, and severe accidents.

The Committee members discussed the format and content of the ACRS 2001 report and indicated that the focus of the report should be on the NRC's "mission needs." This concept was also proposed to the Office of Nuclear Regulatory Research (RES) representatives and will be conducted with the consultation and cooperation of RES.

Conclusion

The Committee will continue its discussion and preparation of the ACRS 2001 report to the Commission on the NRC research programs at the meeting on August 29-September 1, 2000.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee discussed the response from the NRC Executive Director for Operations (EDO) dated June 28, 2000, to the ACRS comments and

recommendations included in the ACRS report dated May 23, 2000, concerning SECY-00-0053, "NRC Program on Human Performance in Nuclear Power Plant Safety."

The Committee was satisfied with the EDO's response. The Committee would like the opportunity to review the products of the activities identified in the EDO's response.

- The Committee discussed the response from the EDO dated May 12, 2000, to ACRS comments and recommendations included in its report dated April 17, 2000, concerning proposed revisions to the Commission's Reactor Safety Goal Policy Statement. The Committee was satisfied with the EDO's response to this matter. The EDO had transmitted the Committee's comments to the Commission for its consideration, pursuant to its pending decision on the staff's proposed revisions.

The Commission, in a staff requirements memorandum dated June 27, 2000, indicated that it did not choose to accept the Committee's advice on this matter.

OTHER RELATED ACTIVITIES OF THE COMMITTEE

During the period from June 7, 2000 through July 11, 2000, the following Subcommittee meetings were held:

- Joint Meeting of the Subcommittees on Plant Operations and Fire Protection - June 14, 2000

The Subcommittees discussed the plant performance review process, implementation challenges associated with the revised inspection and assessment programs, and fire protection issues.

- Reliability and PRA Subcommittee Meeting - June 28-29, 2000

The Subcommittee discussed the proposed final ASME standard for PRA for nuclear power plant applications. The Subcommittee also discussed the status of risk-informed revisions to 10 CFR Part 50, including the proposed revision to 10 CFR 50.44 concerning combustible gas control systems, issues in the NEI letter dated January 19, 2000 (Option 3), and public comments related to the advance notice of proposed rulemaking on 10 CFR 50.69 and Appendix T (Option 2), and staff plans to revise its framework document (SECY-00-0086) for risk-informing the technical requirements of 10 CFR Part 50.

C Planning and Procedures - July 11, 2000

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 FOLLOWUP MATTERS FOR THE EXECUTIVE DIRECTOR FOR OPERATIONS

- The Committee would like the opportunity to review the Babcock and Wilcox Owners Group Topical Report BAW-2374, "Justification for Not Including Postulated Breaks in Large-Bore Reactor Coolant System Piping in the Licensing Basis for Existing and Replacement Once-through Steam Generators," after the staff prepares the safety evaluation.
- The Committee would like to have the opportunity to review the results of the NRC Program on Human Performance activities when they become available.
- The Committee decided to continue its review of proposed risk-informed revisions to 10 CFR Part 50 during the ACRS meeting on August 29-September 1, 2000, when the staff's draft Commission papers (Options 2 and 3) are expected to be available.
- In the future, the Committee would like to receive draft documents for use in making decisions.
- The Committee deferred its comments on the draft Commission paper regarding assessment of the quality of PRAs pending receipt of the revised version of the Commission paper.

PROPOSED SCHEDULE FOR THE 475TH ACRS MEETING

The Committee agreed to consider the following topics during the 475th ACRS Meeting on August 29 through September 1, 2000:

Proposed Risk-Informed Revisions to 10 CFR Part 50

A briefing by and discussions with representatives of the NRC and NEI regarding a proposed NRC framework document for risk-informing the technical requirements of 10 CFR Part 50, proposed revisions to 10 CFR 50.44 concerning combustible gas control systems, and advance notice of proposed rulemaking (10 CFR 50.69 and Appendix T).

Causes and Significance of Design Basis Issues

A briefing by and discussions with representatives of the NRC regarding a study of design basis issues and trends.

Proposed Final Regulatory Guide (DG-1093) Endorsing the NEI 97-04 Document on Design Basis

A briefing by and discussions with representatives of the NRC and NEI regarding the proposed final version of the regulatory guide.

AP1000 Standard Plant Design

A briefing by and discussions with representatives of the NRC regarding issues identified during AP1000 pre-application review (Phase 1).

Performance-Based Regulatory Initiatives

A briefing by and discussions with representatives of the NRC regarding a Commission paper associated with performance-based regulatory initiatives. Also, discussions with representatives of the NRC staff regarding the contents of the proposed Standard Review Plan, Generic Aging Lessons Learned Report, a regulatory guide, and associated NEI guidance documents.

Operating Events at Indian Point Nuclear Generating Unit No. 2

A briefing by and discussions with representatives of the NRC and the licensee regarding the events, noted below, that occurred at the Indian Point Unit 2 and the associated staff findings, conclusions, and recommendations resulting from the evaluation of these events.

C Steam generator tube rupture event on February 15, 2000.

C Event involving reactor trip and loss of offsite power on August 31, 1999.

Siemens SRELAP-5 Appendix K Small-Break Loss-of-Coolant-Accident Code

A briefing by and discussions with representatives of the NRC and Siemens Corporation regarding the Siemens SRELAP-5 Appendix K code version for application to analyze a small-break loss of coolant accident.

[NOTE: A portion of this session may be closed to discuss Siemens Corporation's proprietary information.]

Annual Report to the Commission on the NRC Safety Research Program

A discussion of the format and content of the annual ACRS report to the Commission on the NRC Safety Research Program.

Meeting With the NRC Commissioners on October 6, 2000

A discussion of topics and preparation for a meeting with the Commissioners scheduled for October 6, 2000.

Sincerely,

/RA/

Dana A. Powers
Chairman