



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001

SL-0519

March 26, 2004

The Honorable Nils J. Diaz
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: SUMMARY REPORT - 510th MEETING OF THE ADVISORY COMMITTEE ON
REACTOR SAFEGUARDS, MARCH 4-6, 2004 AND OTHER RELATED
ACTIVITIES OF THE COMMITTEE

Dear Chairman Diaz:

During its 510th meeting, March 4-6, 2004, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following reports, letters, and memorandum:

REPORTS:

The following reports to Nils J. Diaz, Chairman, NRC, from Mario V. Bonaca, Chairman, ACRS:

- Report on the Safety Aspects of the License Renewal Application for the Virgil C. Summer Nuclear Station dated March 17, 2004.
- Report on the Safety Aspects of the License Renewal Application for the H. B. Robinson Steam Electric Plant, Unit 2 dated March 18, 2004.

LETTERS:

The following letters to William D. Travers, Executive Director for Operations, NRC, from Mario V. Bonaca, Chairman, ACRS:

- ACRS Review of the Westinghouse Electric Company Application for Certification of the AP1000 Plant Design-Interim Letter dated March 17, 2004.
- Draft Final Revision 3 to Regulatory Guide 1.82, "Water Sources for Long-Term Recirculation Cooling Following a Loss-of-Coolant Accident" dated March 18, 2004.

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MEMORANDUM:

Memorandum to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, Subject: Anonymous Message Concerning the TRACE Computer Code Development and Review Practices dated March 8, 2004.

HIGHLIGHTS OF KEY ISSUES

1. Safeguards and Security Matters

The Committee was briefed by representatives from the Office of Nuclear Regulatory Research (RES), the Office of Nuclear Security and Incident Response (NSIR), and the Nuclear Energy Institute (NEI) regarding safeguards and security matters. This session was closed to protect information classified as national security information as well as unclassified safeguards information pursuant to 5 U.S.C. 552b(c)(1) and (3).

2. License Renewal Application for the H.B. Robinson Steam Electric Plant, Unit 2

The Committee heard presentations by, and held discussions with, representatives of the NRC staff and Carolina Power and Light Company regarding the staff's final Safety Evaluation Report for the H.B. Robinson Nuclear Power Plant, Unit 2 license renewal application. The staff discussed the resolution of open and confirmatory items that were included in the draft SER. The Committee noted that there are 27 enhanced aging management programs (AMPs) and ten new AMPs. The applicant plans to have 18 of these AMPs in place by mid 2004.

Committee Action

The Committee issued a report to the NRC Chairman on this matter dated March 18, 2004. The Committee recommended that the application for renewing the operating license be approved.

3. Interim Review of the AP1000 Design

The Committee heard presentations by and held discussions with representatives of the NRC staff and Westinghouse concerning the resolution of open items identified in the staff's draft safety evaluation report (DSER) as well as issues previously raised by the ACRS regarding thermal-hydraulic design issues for the AP1000 design, and related design certification matters.

The NRC staff indicated that originally there were 174 open items. Resolution of 164 open items has been completed. The remaining 10 open items include two open items regarding security, three open items addressing the aerosol removal coefficients supplied by Westinghouse, one open item regarding the leak-before-break for main steam piping, and four open items regarding the final AP1000 design control document review and the review of the combined license action items.

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During the reviews, the ACRS has identified a number of issues that have subsequently been addressed by Westinghouse and the staff. The ACRS reviews have not addressed security matters and their impact on the design. The ACRS commented on several areas related to the certification of the AP1000 reactor design. These areas are the DSER and design compliance, codes and validation testing, probabilistic risk assessment, materials, and severe accidents.

Committee Action

The Committee issued a letter to the Executive Director for Operations on this matter dated March 17, 2004, commenting on several areas related to the certification of the AP1000 design. The Committee is looking forward to reviewing the final SER and the resolution of any open items before conducting its final review.

4. License Renewal Application for the Virgil C. Summer Nuclear Station

The Committee met with the NRC staff and representatives of the South Carolina Electric and Gas Company (SCE&G) to review and discuss the results of the staff evaluation of the license renewal application for the South Carolina Electric and Gas Company, V.C. Summer Nuclear Power Station and the associated final Safety Evaluation Report. The applicant has requested approval for continued operation of the plant for a period of 20 years beyond the current license expiration date.

Committee Action

The Committee issued a report to the NRC Chairman dated March 17, 2004, recommending that the SCE&G application for renewal of the operating license for V.C. Summer Nuclear Station be approved.

5. Proposed Criteria for ACRS Evaluation of the Effectiveness (Quality) of the NRC Safety Research Programs

The Office of Nuclear Regulatory Research (RES) has been charged by the EDO to establish a process to evaluate the effectiveness (Quality) and utility of its programs. This evaluation is mandated by the Government Performance and Results Act (GPRA) and needs to be in place during the next fiscal year. The Committee has agreed to assist RES in this assessment. Its review will focus on assessing the quality of research programs. Cost characteristics and timeliness of the results will not be addressed in the ACRS evaluation. Timeliness will be measured as part of a "relevance" review, which is to be performed as a separate but related part of the overall RES quality metric. During the March 2004 ACRS meeting, the Committee discussed a process for developing a quantitative metric (a numerical grade) to be used for evaluating the quality of selected NRC research projects.

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Committee Action

The Committee issued a letter to RES providing a proposed strategy for assessing the quality of individual research projects. This strategy is still under consideration, and the Committee has invited RES to comment so that it can better meet the RES management needs. During the April 2004 ACRS meeting, the Committee plans to further discuss criteria in evaluating the quality of the NRC research programs.

6. Divergence in Regulatory Approaches Between U.S. and Several Other Countries

In an April 28, 2003 Staff Requirements Memorandum (SRM), on the April 11, 2003 meeting with Advisory Committee on Reactor Safeguards (ACRS), the Commission stated that "In the course of its routine activities of reviewing and advising the Commission on reactor issues, the Committee should explore and consider other international regulatory approaches. Where there are significant differences in regulatory approaches and requirements. The Commission should be informed." During its March 2004 meeting, the Committee discussed the differences in regulatory approaches between the U.S. and several other countries.

Committee Action

During its April 15-17, 2004 ACRS meeting, the Committee plans to discuss the proposed ACRS report on divergence in regulatory requirements between U.S. and several other countries.

7. Joint Meeting of the ACRS/ACNW with the EDO/Office Directors of NRR/RES/NMSS

The ACRS met with the Executive Director for Operations (EDO) and Directors of the Offices of Nuclear Reactor Regulation, Nuclear Regulatory Research, and Nuclear Material Safety and Safeguards regarding items of mutual interest, including risk-informing 10 CFR 50.46, PWR sump performance issues, PRA quality, spent fuel pool issues, risk-informing NMSS regulations, and transportation-related issues. Several ACNW Members attended this meeting and participated in the discussions.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS/EDO COMMITMENTS

- The Committee considered three classified responses from the EDO dated September 11, 2003, December 12, 2003, and February 27, 2004, which addressed the ACRS reports on security issues dated July 18, October 27, and November 24, 2003.

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

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- The Committee considered the response from the EDO dated February 3, 2004, to the ACRS report dated December 12, 2003, concerning Draft Final Rule Revising 10 CFR 50.48, "Fire Protection," to Permit Licensees to Voluntarily Adopt National Fire Protection Association Standard 805.

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

OTHER RELATED ACTIVITIES OF THE COMMITTEE

During the period from February 5, 2004, through March 3, 2003, the following Subcommittee meetings were held:

- Thermal Hydraulic Phenomena - February 10-11, 2004

The Subcommittee discussed the resolution of open thermal-hydraulic issues related to the AP1000 design, including ADS-4 entrainment, long term cooling, boron concentration, and computer code modeling differences.

- Reliability and Probabilistic Risk Assessment - February 19, 2004

The Subcommittee reviewed the ongoing resolution of public comments on the proposed 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components," and the staff's draft Regulatory Guide endorsing Revision D of NEI 00-04, "10 CFR 50.69 Structures, Systems, and Components Categorization Guideline."

- Planning and Procedures - March 3, 2004

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 MATTERS FOR THE ATTENTION OF THE EDO

- The ACRS Future Plant Designs Subcommittee has scheduled a meeting on June 25, 2004, to review the Final safety evaluation report regarding the Westinghouse AP1000 design, and related matters. The Committee also scheduled a session during its meeting on July 7-9, 2004 to finalize its views on this matter.

PROPOSED SCHEDULE FOR THE 511th ACRS MEETING

The Committee agreed to consider the following topics during the 511th ACRS meeting, to be held on April 15-17, 2004:

- Action Plan for Implementing the Phased Approach for Improving PRA Quality

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- SECY-04-0037, “Issues Related to Proposed Rulemaking to Risk-Inform Requirements Related to Large Break LOCA Break Size and Plans for Rulemaking on LOCA with Coincident Loss-of-Offsite Power”
- Options and Recommendations for Functional Performance Requirements and Criteria for the Containments of Non-LWRs
- Criteria for Evaluating the Effectiveness (Quality) of the NRC Research Programs
- License Renewal Application for the R. E. Ginna Nuclear Power Plant
- Proposed Generic Communication Regarding Pressurizer Dissimilar Metal Weld Cracking Issues
- Subcommittee Report on the Interim Review of the License Renewal Application for the Dresden and Quad Cities Nuclear Power Plants
- Subcommittee Report on Digital I&C System Matters
- Preparation for Meeting with the NRC Commissioners

Sincerely,

/RA/

Mario V. Bonaca
Chairman