

April 16, 2002

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

Dear Chairman Meserve:

SUBJECT: SUMMARY REPORT - 490th MEETING OF THE ADVISORY
COMMITTEE ON REACTOR SAFEGUARDS, MARCH 7-9, 2002
AND OTHER RELATED ACTIVITIES OF THE COMMITTEE

During its 490th meeting, March 7-9, 2002, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following reports and letters. In addition, the Committee authorized Dr. John T. Larkins, Executive Director, ACRS, to transmit the memorandum noted below:

REPORTS

- Core Power Uprate for Arkansas Nuclear One, Unit 2 (Report to Chairman Meserve, NRC, from George E. Apostolakis, Chairman, ACRS, dated March 14, 2002)
- Core Power Uprate for Clinton Power Station, Unit 1 (Report to Chairman Meserve, NRC, from George E. Apostolakis, Chairman, ACRS, dated March 14, 2002)
- Phase 2 Pre-Application Review for AP1000 Passive Plant Design (Report to Chairman Meserve, NRC, from George E. Apostolakis, Chairman, ACRS, dated March 14, 2002)

LETTERS

- Confirmatory Research Program on High-Burnup Fuel (Letter to William D. Travers, Executive Director for Operations, NRC, from George E. Apostolakis, Chairman, ACRS, dated March 14, 2002)

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- Proposed Rulemaking and Associated Guidance for Risk-Informing the Special Treatment Requirements of 10 CFR Part 50 (Option 2) (Letter to William D. Travers, Executive Director for Operations, NRC, from George E. Apostolakis, Chairman, ACRS, dated March 19, 2002)

MEMORANDUM

- Final Rule on Decommissioning Trust Provisions (Memorandum to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS, dated March 13, 2002)

HIGHLIGHTS OF KEY ISSUES CONSIDERED BY THE COMMITTEE

1. Clinton Nuclear Power Station Core Power Uprate

The Committee heard presentations by and held discussions with representatives of the NRC staff and AmerGen Energy Company regarding the core power uprate for the Clinton Power Station, Unit 1, a BWR - 6, Mark III, constant-pressure reactor. Clinton's power uprate of 20%, from 2894 MWt to 3473 MWt, will be done in steps of 7 and 13%. In general, the licensee used the Extended Power Uprate Licensing Topical Reports (ELTR 1 and ELTR 2) methodologies. Plant modifications were minimal.

Committee Action

The Committee issued a report to Chairman Meserve on this matter dated March 14, 2002.

2. Proposed NEI 00-04, "Option 2 Implementation Guideline," for Risk-Informing the Special Treatment Requirements of 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 the proposed rulemaking and associated guidance for risk-informing the special treatment requirements of 10 CFR Part 50 (Option 2). The staff provided an overview of the technical issues related to the draft rule language for 10 CFR 50.69 and proposed industry guidance in NEI 00-04, Revision B, "Option 2 Implementation Guideline." The staff discussed the criteria for structures, systems, and components (SSCs) categorization by the integrated

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decision-making panel (IDP) and major issues requiring resolution include long-term containment integrity, guidance for the IDP to support qualitative decisions, and use of the peer review process described in NEI 00-02, "PRA Peer Review Process Guidance." The staff also commented on issues discussed during the February 22, 2002 meeting of the ACRS Subcommittee on Reliability and Probabilistic Risk Assessment, including guidance on the use of importance measures, time-dependent failures of passive equipment, reliance on sensitivity studies and point estimates, consideration of defense in depth, and completeness of NEI 00-04. NEI representatives commented on pilot demonstration of the IDP and categorization processes and the status of plans to revise NEI 00-04 to reflect lessons learned.

Committee Action

The Committee issued a letter to the Executive Director for Operations on this matter, dated March 19, 2002.

3. Arkansas Nuclear One, Unit 2 Core Power Uprate

The Committee heard presentations by and held discussions with representatives of the NRC staff and Entergy Operations Inc., regarding the license amendment request for an increase in core thermal power for the Arkansas Nuclear One, Unit 2 (ANO-2) plant. Entergy had requested a core power uprate of 7.5% for ANO-2.

This was the first uprate for a PWR plant that the Committee has reviewed, pursuant to current licensee programs to uprate plant power. The Committee's review focused on the issues related to plant modifications; plant margins; plant operator training and operator action times; material degradation; containment response; ECCS analysis; start-up test program; and PRA analysis.

Committee Action

The Committee issued a report to Chairman Meserve on this matter, dated March 14, 2002.

4. Phase 2 Pre-Application Review of the AP1000 Design

The Committee heard presentations by and held discussions with representatives of the NRC staff and Westinghouse regarding the Phase 2 pre-application review of the Westinghouse AP1000 passive plant design.

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The purpose of the Phase 2 review was for the staff to develop positions on the following:

- Acceptability of the proposed use of design acceptance criteria (DAC) for particular parts of the AP1000 design
- Acceptability of certain exemptions that Westinghouse intends to request
- Applicability of the AP600 test program to the AP1000 design
- Applicability of the AP600 analyses codes to the AP1000 design

Committee Action

The Committee issued a report to Chairman Meserve on the staff's positions on each of these four issues in a letter dated March 14, 2002.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee considered the response from the EDO, dated March 6, 2002, to comments and recommendations included in the ACNW report dated January 14, 2002, concerning risk-informed activities in the Office of Nuclear Material Safety and Safeguards. Cognizant ACRS members on the ACRS/ACNW Joint Subcommittee plan to provide comments and recommendations on this matter for consideration during a future ACNW meeting.

OTHER RELATED ACTIVITIES OF THE COMMITTEE

During the period from February 6, 2002 through March 6, 2002, the following Subcommittee meetings were held:

- Thermal Hydraulic Phenomena/Future Plant Designs - February 13-15, 2002

The Subcommittees reviewed core power uprate applications and the associated NRC staff's safety evaluation reports for Arkansas Nuclear One, Unit 2 and Clinton Power Station, Unit 2. In addition, the Subcommittees reviewed the results of the NRC staff's Phase 2 pre-application review of the AP1000 design.

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- Reliability and Probabilistic Risk Assessment - February 22, 2002

The Subcommittee continued its review of risk-informed revisions to the special treatment requirements of 10 CFR Part 50 (Option 2). The Subcommittee reviewed proposed industry guidance in NEI 00-04, "Option 2 Implementation Guideline," and related matters.

- Thermal-Hydraulic Phenomena Subcommittee - March 6, 2002

The Subcommittee continued its review of the GE Nuclear Energy Topical Report, NEDC-33004P, Revision 1, "Constant Pressure Power Uprate", and the NRC staff's associated Safety Evaluation.

- Planning and Procedures - March 6, 2002

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 EXECUTIVE DIRECTOR FOR OPERATIONS

- The Committee, via a March 14, 2002 letter, has requested that the EDO address the impact of the Office of Nuclear Reactor Regulation's decision to withdraw its support from an on-going confirmatory research program on high burnup fuel.

PROPOSED SCHEDULE FOR THE 491st ACRS MEETING

The Committee agreed to consider the following topics during the 491st ACRS meeting, April 11-13, 2002:

- Final Review of the Turkey Point License Renewal Application
- Advanced Reactor Research Plan

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- CRDM Penetration Cracking and Reactor Pressure Vessel Head Degradation
- Westinghouse Owners Group (WOG) and Electric Power Research Institute (EPRI) Initiatives Related to Risk-Informed Inservice Inspection of Piping
- General Electric (GE) Nuclear Energy Topical Report: "Constant Pressure Power Uprate"

Sincerely,

/RA/

George E. Apostolakis
Chairman