



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

December 3, 2013

The Honorable Allison M. Macfarlane
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: SUMMARY REPORT – 609th MEETING OF THE ADVISORY COMMITTEE ON
REACTOR SAFEGUARDS, NOVEMBER 7-8, 2013

Dear Chairman Macfarlane:

During its 609th meeting, November 7-8, 2013, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following report, letters, and memorandum:

REPORT

Report to Allison M. Macfarlane, Chairman, NRC, from J. Sam Armijo, Chairman, ACRS:

- Draft Commission Paper, "NRC Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force (NTTF) Report," dated November 20, 2013

LETTERS

Letters to Mark A. Satorius, Executive Director for Operations, NRC, from J. Sam Armijo, Chairman, ACRS:

- Interim ACRS Review of Watts Bar Nuclear Unit 2 Operating License Application, dated November 26, 2013
- Draft Final Revisions of Regulatory Guides 1.168 Through 1.173, Software Processes for Digital Computers in Safety Systems of Nuclear Power Plants, dated November 20, 2013

Letter to Brian Sheron, Director, Office of Nuclear Regulatory Research, NRC, from J. Sam Armijo, Chairman, ACRS:

- ACRS Assessment of the Quality of Selected NRC Research Projects - FY 2013, dated November 21, 2013

Letter to Diane Curran, Esq., Harmon, Curran, Spielberg & Eisenberg, LLP, from J. Sam Armijo, Chairman, ACRS:

- Response to Concerns Regarding the ACRS Review of the NRC's Draft Consequence Study of a Beyond-Design-Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark I Boiling Water Reactor, dated November 20, 2013

MEMORANDUM

Memorandum to Mark A. Satorius, Executive Director for Operations, NRC, from Edwin M. Hackett, Executive Director, ACRS:

- Draft Final Regulatory Guides, DG-3044, "Corrective Action Programs for Fuel Cycle Facilities," and DG-1245, "Inspection of Water-Control Structures Associated with Nuclear Power Plants," dated November 13, 2013

HIGHLIGHTS OF KEY ISSUES

1. NRC Staff's Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report

The Committee met with representatives of the NRC staff to discuss the staff's draft Commission paper, "NRC Staff's Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report." The staff discussed the following three improvement activities: (1) establish a design extension category of events and associated regulatory requirements, (2) establish Commission expectations for defense-in-depth, and (3) clarify the role of voluntary industry initiatives in the NRC regulatory process. The staff explained how each improvement activity addresses or does not address Recommendation 1 and its four sub-recommendations. The staff discussed its consideration of the recommendations for power reactors in the Risk Management Task Force report, NUREG-2150, relative to the development of the three improvement activities as directed by the Chairman in a tasking memorandum, dated June 14, 2012. A more detailed discussion of how each improvement activity addresses each applicable Risk Management Task Force report recommendation is contained in Enclosure 1 of the draft Commission paper. The staff also presented a summary of proposed changes to the version of the draft Commission paper sent to the Committee on October 31, 2013.

Committee Action

The Committee issued a letter report to the Chairman on this matter dated November 20, 2013, concluding that:

- the staff's proposed approach to disposition of NTTF Recommendation 1 will provide limited improvement to the current regulatory structure,
- developing guidance to assure consistency in the regulatory treatment of issues assigned to a new design-basis extension category has merit,
- establishing the Commission's expectations for defense-in-depth through a Commission Policy Statement that includes the definition, objectives, and principles of defense-in-depth is valuable only if there also is a clear direction to move forward with a regulatory framework which includes development of a risk-informed, performance-based defense-in-depth concept,
- Commission direction on the long term plan for a risk management regulatory framework is needed, and
- enhanced monitoring and documentation of future industry initiatives is a necessary process improvement.

The Committee also recommended that the regulatory inspection requirements be designed carefully to optimize valuable inspection resources and the staff reconsider the preliminary characterizations presented on the costs and value of site-specific and generic probabilistic risk assessment applications because they may inappropriately marginalize and inadvertently prejudice the value of proceeding with a risk management regulatory framework for operating reactors.

2. Interim ACRS Review of Watts Bar Nuclear Unit 2 Operating License Application

The Committee met with representatives of NRC staff and the applicant, Tennessee Valley Authority (TVA), to review the current status of the ongoing construction, inspection and licensing activities related to the Watts Bar Nuclear Unit 2 (Watts Bar 2) operating license application, which was submitted on March 4, 2009. During the meeting the Committee discussed Watts Bar 2 history and background, Commission directions related to Watts Bar 2, the scope of staff review, status of construction, on-going licensing activities, various technical topics, differences between Unit 1 and Unit 2, regional inspections, and activities remaining for the Operating License for Watts Bar 2.

Committee Action

The Committee issued a letter to the Executive Director for Operations (EDO) on this matter dated November 26, 2013, concluding that their review to date has not identified any issue which they did not expect to be satisfactorily resolved prior to the currently scheduled operating license issuance and that integration of Watts Bar 2 as the second unit in a dual-unit plant which has operated as a single unit for almost 20 years would require specific, detailed planning to ensure against creating challenges to Watts Bar 1 operation. The Committee also identified specific items for their future review.

3. Assessment of the Quality of Selected NRC Research Programs – FY 2013

The Committee completed its review of the quality assessment of NRC research projects on NUREG/CR-7026, "Application of Model Abstraction Techniques to Simulate Transport in Soils," and NUREG-2121, "Fuel Fragmentation, Relocation, and Dispersal During the Loss-of-Coolant Accident."

Committee Action

The Committee issued a letter dated November 21, 2013, to the Director, Office of Nuclear Regulatory Research, transmitting its report on the FY 2013 ACRS assessment of the quality of selected NRC research projects. The Committee found NUREG-7026 to be more than satisfactory, a professional work that satisfies research objectives. The Committee found NUREG-2121 to be satisfactory and that with some limitations the results meet the research objectives.

4. Draft Report on the Biennial ACRS Review of the NRC Safety Research Program

The ACRS provides the Commission a biennial report, presenting the Committee's observations and recommendations concerning the overall NRC Safety Research Program. The Committee discussed its draft 2014 report to the Commission on the NRC Safety Research Program.

Committee Action

The Committee plans to continue discussion of its draft report during its December 4-7, 2013 meeting.

5. Draft Regulatory Guides

The Committee considered the draft Regulatory Guides, DG-3044, "Corrective Action Programs for Fuel Cycle Facilities," and DG-1245 (Proposed Revision 2 to Regulatory Guide 1.127), "Inspection of Water-Control Structures Associated with Nuclear Power Plants," and decided not to review them. The Committee has no objection to the staff's proposal to issue these Guides for public comment but would like an opportunity to review the draft final Guides following the public comment period.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

The Committee considered the EDO's response of August 29, 2013, to comments and recommendations included in the June 18, 2013 ACRS letter on the draft final revisions of Regulatory Guides 1.168 through 1.173, Software Processes for Digital Computers in Safety Systems of Nuclear Power Plants. The Committee decided that it was not satisfied with the EDO's response regarding its recommendation for the expedited development of regulatory guidance for digital hardware and software controlling equipment "important to safety." The Committee issued a letter to the EDO dated November 20, 2013, recommending that the staff begin the development of formal regulatory guidance to support reviews of non-safety digital systems which support functions that are "important to safety."

SCHEDULED TOPICS FOR THE 610th ACRS MEETING

The following topics are scheduled for the 610th ACRS meeting, to be held on December 4-7, 2013:

- Japan Lessons Learned Tier 3 Issue: Expedited Transfer of Spent Fuel to Dry Cask Storage
- Draft Report on the Biennial ACRS Review of the NRC Safety Research Program
- Selected Chapters of the Safety Evaluation Report with Open Items Associated with the Calvert Cliffs, Unit 3, Combined License Application (COLA) Referencing the U.S. Evolutionary Power Reactor (EPR)
- Topical Report and Selected Chapters of the Safety Evaluation Report with Open Items Associated with the US Advanced Pressurized Water Reactor (US-APWR) Design Certification and the Comanche Peak COLA
- Naval Reactors Gerald R. Ford Class Aircraft Carrier Nuclear Propulsion Plant Design

Sincerely,

/RA

J. Sam Armijo
Chairman

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Sincerely,

/RA

J. Sam Armijo
Chairman

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