



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

January 2, 2015

The Honorable Stephen G. Burns
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

**SUBJECT: SUMMARY REPORT – 620th MEETING OF THE ADVISORY COMMITTEE
ON REACTOR SAFEGUARDS, DECEMBER 4 - 6, 2014**

Dear Chairman Burns:

During its 620th meeting, December 4 - 6, 2014, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following report, letter, and memorandum:

REPORT

Report to Allison M. Macfarlane, Chairman, NRC, from John W. Stetkar, Chairman, ACRS:

- Commission Paper, Integration of Mitigating Strategies for Beyond-Design-Basis External Events and the Reevaluation of Flooding Hazards, dated December 10, 2014.

LETTER

Letter to Mark A. Satorius, Executive Director for Operations, NRC, from John W. Stetkar, Chairman, ACRS:

- Draft Branch Technical Position 8-9 on Open Phase Conditions in Electric Power Systems, dated December 17, 2014.

MEMORANDUM

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

- Draft Final Regulatory Guide – RG 1.138, Revision 3, dated December 9, 2014.

HIGHLIGHTS OF KEY ISSUES

1. Proposed Rule for Mitigation of Beyond-Design-Basis Events

The Committee met with representatives of the NRC staff and Industry to discuss the staff's November 26, 2014 proposed preliminary rule language, "Mitigation of Beyond-Design-Basis Events Rulemaking." The staff provided the Committee with an overview of the draft proposed rule language, with a focus on paragraphs (b), (c), and (d). The staff's presentation also included the relationship between the proposed rule language and the Near-Term Task Force Recommendation 2.1, regarding the reevaluation of the plant-specific seismic and flooding hazards. The Industry representatives' discussion focused mainly on their proposal to integrate the plant-specific hazards re-evaluations with development of the mitigating strategies and evaluation of their adequacy for meeting the proposed rule.

Committee Action

The Committee will review the draft proposed mitigation of beyond-design-basis events rulemaking package at a future meeting.

2. Integration of Mitigating Strategies for Beyond-Design-Basis External Events and the Reevaluation of Flooding Hazards

The Committee met with representatives of the NRC staff, including members of the staff and management with differing views, to discuss the November 21, 2014 Commission Paper, COMSECY-14-0037, "Integration of Mitigating Strategies for Beyond-Design-Basis External Events and the Reevaluation of Flooding Hazards." In COMSECY-14-0037, the NRC staff asks the Commission to affirm the following positions: (1) licensees of operating nuclear power plants need to address the effectiveness of their beyond-design-basis external events mitigating strategies against the reevaluated flooding hazards, (2) operating nuclear power plant licensees need to address some specific flooding scenarios that could significantly damage the power plant site, by developing targeted or scenario-specific mitigating strategies, and (3) the staff should revise Recommendation 2.1 flooding assessments and integrate the Phase 2 decision-making into the development and implementation of mitigating strategies in accordance with Order EA-12-049 and the related rulemaking. The staff discussed their proposed path for integrating Recommendation 2.1 reevaluated hazards with the mitigation of the beyond-design-basis events rulemaking and evaluation of requirements beyond the specifics addressed by the rulemaking.

Committee Action

The Committee issued a letter report to the Chairman on this matter, dated December 10, 2014. With regard to the three requested affirmations, the Committee: (1) agreed fully with the staff's recommendation in Position 1, (2) disagreed with the staff's recommendation in Position 2 that targeted or scenario-specific mitigating strategies may be developed without the supporting context of an integrated assessment, and (3) agreed that the staff should revise the Recommendation 2.1 flooding assessments and integrate the Phase 2 decision-making

into the development and implementation of mitigating strategies in accordance with Order EA-12-049 and the related rulemaking. In addition the Committee recommended that the staff define better the scope and the intent of the integrated assessments that are performed after the development and implementation of the mitigating strategies in accordance with Order EA-12-049.

3. Regulatory Gap Analysis of the Nuclear Regulatory Commission's Cost Benefit Guidance and Practices

The Committee met with representatives of the NRC staff to discuss the staff's draft Commission Paper, "Regulatory Gap Analysis of the Nuclear Regulatory Commission's Cost-Benefit Guidance and Practices." The staff discussed how the gap analysis was performed. The gap analysis included: (1) reviewing the scope and methodologies used throughout the NRC and other federal agencies, (2) considering differences identified in NRC cost-benefit practices, and (3) accounting for enhancements to be factored into future cost-benefit updates.

Committee Action

The Committee will follow this matter as part of their review of pending revisions to regulatory analysis guidance as described in SECY-14-0002, "Plan for Updating the U.S. Nuclear Regulatory Commission's Cost-Benefit Guidance."

4. Branch Technical Position (BTP) 8-9, "Open Phase Conditions in Electric Power System"

The Committee met with representatives of the NRC Staff, the Nuclear Energy Institute (NEI), and the Electric Power Research Institute (EPRI) to discuss draft BTP 8-9, "Open Phase Conditions in Electric Power System," and the technical issues associated with detecting an open phase condition. The staff briefed the Committee on draft BTP 8-9, which provides criteria and guidance for the staff's review of licensing actions pertaining to the resolution of the open phase issue. NEI briefed the Committee on the event at Byron Station Unit 2, which resulted in the issuance of NRC Bulletin 2012-01, "Design Vulnerability in Electric Power System." EPRI briefed the Committee on the technical issues associated with detecting an open-phase condition and described a method for monitoring and detecting these faults.

Committee Action

The Committee issued a letter to the NRC Executive Director for Operations on this matter, dated December 17, 2014. The Committee recommended that BTP 8-9 be issued after consideration of also requiring protection for onsite power circuits connecting to the high voltage side of a plant transformer, unless the circuit is fully contained in an isolated phase bus.

5. NRC Review Process for ASME (American Society of Mechanical Engineers) Code Cases

The Committee met with representatives of the NRC staff and ASME to discuss the NRC process for the review of ASME code cases and associated rulemaking activities. The Office of General Council briefed the Committee on the related legal framework. The Office of Nuclear Reactor Regulation staff discussed the differences in their review processes between routine updates to 10 CFR 50.55a that incorporate references to ASME codes and the more substantial technical changes, typical of rulemaking activities. The Office of Nuclear Regulatory Research staff delineated their role in coordinating NRC's regulatory positions on new provisions to the ASME code cases. Mr. Clayton Smith, a previous Vice Chair of the ASME Board of Nuclear Codes and Standards also addressed the Committee. Mr. Smith emphasized the importance of timely NRC endorsement of ASME code actions and cases.

Committee Action:

This was an information briefing. No Committee action was necessary.

6. Draft Regulatory Guide

The Committee considered the following draft final Regulatory Guide and decided not to review it. The Committee has no objection to the staff's proposal to issue this Guide.

- Draft final Regulatory Guide 1.138, Revision 3, "Laboratory Investigations of Soils and Rocks for Engineering Analysis and Design of Nuclear Power Plants"

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee considered the Executive Director for Operations' response of October 16, 2014, to comments and recommendations included in the August 5, 2014 ACRS letter on the proposed revision of 10 CFR 50.55a to incorporate by reference IEEE [Institute of Electrical and Electronics Engineers] Standard 603-2009, "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations," and associated draft Revision 2 to Regulatory Guide 1.153, "Criteria for the Power, Instrumentation, and Control Systems for Nuclear Power Plants." The Committee was not satisfied with the Executive Director for Operations' response and will be responding appropriately at the next Full Committee meeting in February 2015.

SCHEDULED TOPICS FOR THE 621st ACRS MEETING

The following topics are scheduled for the 621st ACRS meeting, to be held on February 5-7, 2015:

- Watts Bar Unit 2 Operating License
- Final Safety Evaluation Report Associated with the South Texas Project, Units 3 and 4, Combined License Application Referencing the Advanced Boiling Water Reactor Design
- NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Section 13.1.2-13.1.3, "Operating Organization," draft Rev 7
- Draft Generic Letter 20XX-XX, "Treatment of Natural Phenomena Hazards in Fuel Cycle Facilities"

Sincerely,

/RA/

John W. Stetkar
Chairman

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/RA/

John W. Stetkar
Chairman

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