



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

June 8, 2016

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

SUBJECT: SUMMARY REPORT – 634th MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, MAY 5-6, 2016

Dear Chairman Burns:

During its 634th meeting, May 5-6, 2016, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following letters and memoranda:

LETTERS

Letters to Victor M. McCree, Executive Director for Operations, NRC, from Dennis C. Bley, Chairman, ACRS:

- “NRC Staff Updated Assessment of Fukushima Tier 2 Recommendations Related to Evaluation of Natural Hazards other than Seismic and Flooding,” dated May 17, 2016
- “Draft Interim Staff Guidance JLD-ISG-2016-01, ‘Guidance for Activities related to Near-Term Task Force Recommendation 2.1, Flooding Hazard Reevaluation; Focused Evaluation and Integrated Assessment’,” dated May 18, 2016
- “NuScale Power, LLC Licensing Topical Report, ‘Risk Significance Determination’,” dated May 18, 2016

MEMORANDA

Memoranda to Victor M. McCree, Executive Director for Operations, NRC, from Andrea D. Valentin, Executive Director, ACRS:

- “Documentation of Receipt of Applicable Official NRC Notices to The Advisory Committee on Reactor Safeguards for May 2016,” dated May 16, 2016
- “Draft Regulatory Guide 1.117, ‘Protection against Extreme Winds and Missiles for Nuclear Power Plants’,” Revision 2, dated May 16, 2016

HIGHLIGHTS OF KEY ISSUES

1. Draft Interim Staff Guidance JLD-ISG-2016-01, "Guidance for Activities related to Near-Term Task Force Recommendation 2.1, Flooding Hazard Reevaluation; Focused Evaluation and Integrated Assessment"

The Committee met with representatives of the NRC staff and the Nuclear Energy Institute (NEI) to discuss draft Interim Staff Guidance JLD-ISG-2016-01, "Guidance for Activities Related to Near-Term Task Force Recommendation 2.1, Flooding Hazard Reevaluation; Focused Evaluation and Integrated Assessment." Interim Staff Guidance JLD-ISG-2016-01 endorses, with some clarifications, the graded evaluation process and guidance in NEI 16-05, "External Flooding Integrated Assessment." The integrated assessments and focused evaluations of reevaluated flooding hazards described in NEI 16-05 may account for the FLEX mitigation strategies in the context of overall plant response, or they may confirm that flood protection strategies and installed plant equipment can effectively cope with the reevaluated flood, without benefit from the FLEX equipment.

Committee Action

The Committee issued a letter to the NRC Executive Director for Operations on this matter, dated May 18, 2016, with the following conclusions and recommendations: 1) Except for the treatment of flooding from local intense precipitation, the graded approach that is endorsed in JLD-ISG-2016-01 provides an appropriate framework to evaluate the plant-specific effects from reevaluated flooding hazards, 2) If mitigation strategies are needed to maintain or restore key safety functions during a flood caused by local intense precipitation, the staff should review those evaluations in the same manner as the integrated assessments that are performed for other flooding mechanisms, 3) The staff should better specify expectations for assurance of reliable personnel performance in the integrated assessments that are performed according to the guidance for the higher frequency scenarios in Path 5 and all scenarios in Path 4, 4) The staff should develop guidance to ensure that the evaluations examine external flooding scenarios that result from seismic events which also cause damage at the plant site, and 5) It would be challenging to conduct comprehensive and timely peer review of these flooding assessments according to the guidance and expectations.

2. NRC Staff Updated Assessment of Fukushima Tier 2 Recommendations Related to Evaluation of Natural Hazards other than Seismic and Flooding

The Committee met with the NRC staff to discuss the staff's White Paper, "NRC Staff Updated Assessment of Fukushima Tier 2 Recommendations related to Evaluation of Natural Hazards other than Seismic and Flooding." The staff discussed its assessments and conclusions, and their plans to complete these evaluations by the end of 2016.

Committee Action

The Committee issued a letter to the NRC Executive Director for Operations on this matter, dated May 18, 2016, with the following conclusions and recommendations: 1) We agree with the staff's conclusion that further evaluation of the effects from high winds and snow loads is warranted, 2) We plan to review the analyses which support the staff's conclusions that no further effort is needed to examine the effects from downstream dam failures and intake water seiche conditions at selected sites, 3) The staff has provided adequate justification for excluding most other natural hazards from further evaluation. The following items merit additional attention: Hazards that may disable the ultimate heat sink as a source of water with adequate quality to support long-term heat removal. Hazards that may prevent reliable operation of plant equipment and alternative mitigation equipment which rely on adequate air quality for combustion or ventilation, and 4) The staff should remain involved in the multi-agency investigation of severe geomagnetic storms. They need to distill from this effort expeditiously those factors important for the regulatory process.

3. NuScale Power, LLC Licensing Topical Report, "Risk Significance Determination"

The Committee met with representatives of the NRC staff to discuss its review of the NuScale Topical Report, "Risk Significance Determination." The topical report outlined the proposed methodology for defining the term "significant" to identify candidate risk significant structures, systems, and components (SSCs) for input to the NuScale Design Reliability Assurance Program. The topical report methodology involves the use of alternative metrics compared to Regulatory Guide 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," for defining the term "significant."

Committee Action

The Committee issued a letter to the NRC Executive Director for Operations on this matter, dated May 18, 2016, with the following conclusion and recommendations: 1) The staff continues to deal with criteria for determining risk significance in a case-by-case manner and this can lead to inconsistencies in regulatory positions, 2) The staff should develop a consistent approach by adopting a continuous scale to determine quantitative risk significance criteria, with more margin allowed for plants with lower risk, 3) The proposed approach by NuScale is reasonable provided that the core damage frequency (CDF) or large release frequency (LRF) remains consistent with their current estimates in the licensing topical report, and 4) The staff will need to address the multi-module aspects of the NuScale design that could alter the CDF and LRF risk estimates and associated SSCs classification.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee considered the Executive Director for Operations' response of April 7, 2016, to the March 15, 2016 ACRS letter, "Non-power Production or Utilization Facilities Proposed License Renewal Rulemaking." The Committee was satisfied with the Executive Director for Operations' response.

SCHEDULED TOPICS FOR THE JUNE 2016 ACRS MEETING

The ACRS meeting scheduled to be held on June 8-10, 2016 was canceled.

Sincerely,

/RA/

Dennis C. Bley
Chairman

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Dennis C. Bley
Chairman

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