



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

May 11, 2015

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

SUBJECT: SUMMARY REPORT – 623rd MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, APRIL 9 -11, 2015

Dear Chairman Burns:

During its 623rd meeting, April 9-11, 2015, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following report, letters, and memoranda:

REPORT

Report to Stephen G. Burns, Chairman, NRC, from John W. Stetkar, Chairman, ACRS:

- Draft SECY Paper on "Proposed Rulemaking: Mitigation of Beyond-Design-Basis Events (RIN 3150-AJ49)," dated April 22, 2015

LETTERS

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

- Topical Report NEDE-33766P, "GEH Simplified Stability Solution (GS3)," dated April 20, 2015
- Interim Staff Guidance JLD-ISG-2015-01, "Compliance with Phase 2 of Order EA-13-109, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions," dated April 30, 2015

MEMORANDA

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

- Draft Final Regulatory Guides, dated April 21, 2015

- Regulatory Guide 1.36, “Nonmetallic Thermal Insulation for Austenitic Stainless Steel,” Revision 1
- Regulatory Guide 8.11, “Applications of Bioassay for Uranium Mills,” Revision 1
- Interim Staff Guidance, dated April 21, 2015
 - FCSS ISG-08, Revision 0, “Natural Phenomena Hazards”
 - DUWP-ISG-01, “Evaluations of Uranium Recovery Facility Surveys of Radon and Radon Progeny in Air and Demonstration of Compliance with 10 CFR 20.1301”
- Withdrawal of Regulatory Guide 1.1, dated April 21, 2015
 - Regulatory Guide 1.1, “Net Positive Suction Head for Emergency Core Cooling and Containment Heat Removal System Pumps”

HIGHLIGHTS OF KEY ISSUES

1. Topical Report NEDE-33766P, “GEH Simplified Stability Solution (GS3)”

The Committee met with representatives of the NRC staff and General Electric-Hitachi (GEH) to discuss the stability detect and suppress methodology proposed in licensing Topical Report, NEDC-33766P, “GEH Simplified Stability Solution (GS3).” GEH provided an overview of the GS3 methodology and discussed detect and suppress methodology for different stability solutions, applicability ranges, and sensitivities, as well as sample results from several boiling water reactor (BWR) plants. The NRC staff discussed the safety evaluation documenting their review of NEDC-33766P. The staff concluded that GS3 is acceptable for stability solutions at plants using detect and suppress Options I-D, II, and III.

Committee Action

The Committee issued a letter to the Executive Director for Operations on this matter, dated April 20, 2015, concluding that the Committee concurs with the staff’s finding that Topical Report NEDC-33766P is acceptable for BWR/2-6 licensing applications to the extent specified and under the limitations and conditions delineated in the Topical Report and in the staff’s Safety Evaluation.

2. Draft Interim Staff Guidance JLD-ISG-2015-01 – Compliance with Phase 2 of Order EA-13-109 (Reliable Hardened Containment Vents)

The Committee met with the NRC staff and industry representatives to discuss draft Interim Staff Guidance JLD-ISG-2015-01, “Compliance with Phase 2 of Order EA-13-109, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation

under Severe Accident Conditions.” Phase 2 of the Order involves providing additional protection during severe accident conditions using a reliable drywell vent or, as an alternate approach, developing a reliable venting strategy making it unlikely that a licensee would need to vent from the containment drywell.

During the discussion, the industry presented development of its Phase 2 guidance document, NEI 13-02, “Industry Guidance for Compliance with Order EA-13-109,” dated March 2015. The staff discussed draft JLD-ISG-2015-01, which endorses the industry guidance with clarifications and exceptions. The discussion also addressed our recommendations regarding Phase 1 compliance that also apply to Phase 2, such as combustible gas control measures and proper evaluation of radiological dose.

Committee Action

The Committee issued a letter to the Executive Director for Operations on this matter dated April 30, 2015, recommending that the staff address our comments, achieve reasonable closure to the open items identified for discussion with the industry, and answer public comments before issuing Interim Staff Guidance JLD-ISG-2015-01. Because of inherent severe accident model uncertainties, especially for Mark II BWRs, the Committee also recommended that all methods of water addition should be considered during a severe accident, including drywell sprays, to take full advantage of reductions in radioactive source terms during wetwell venting. The Committee would like the opportunity to review the final version of Interim Staff Guidance JLD-ISG-2015-01 and its supporting documents.

3. Draft Proposed Rulemaking for Mitigation of Beyond-Design-Basis Events

The Committee met with representatives of the NRC staff and industry to discuss the draft SECY paper “Proposed Rulemaking: Mitigation of Beyond-Design-Basis Events.” In the draft SECY paper, the NRC staff recommends that the Commission approve the proposed rule for publication in the *Federal Register* for public comment. The staff’s presentation described and explained the draft proposed rule. The staff also proposes to issue three draft regulatory guides as part of the rulemaking package. The Committee did not have the opportunity for detailed interaction with the staff on these documents, but plans to meet with the staff to review these draft regulatory guides.

Committee Action

The Committee issued a letter report to the NRC Chairman on this matter, dated April 22, 2015, endorsing publication of the draft proposed rule in the *Federal Register* for public comment subject to the following recommendations: (a) the public comment period should be extended beyond the proposed 75 days to allow ample opportunity for this important review, (b) Section 6 of Draft Regulatory Guide DG-1301 regarding the treatment of re-evaluated hazards should be completed, and (c) the draft proposed rule and Draft Regulatory Guide DG-1301 should not be issued until NEI 12-06, Revision 1, is published in final form and the staff confirms that its guidance is acceptable.

The Committee also recommended that a more comprehensive symptom-based and function-based framework should be developed for the integration of response capabilities that extend beyond the Emergency Operating Procedures. The framework should coordinate strategies and guidance that are currently distributed among the fire response procedures, flooding response procedures, FLEX Support Guidelines, Extensive Damage Mitigation Guidelines, and Severe Accident Management Guidelines.

4. Draft Regulatory Guides

The Committee considered the following draft final regulatory guides and decided not to review them. The Committee has no objection to the staff's proposal to issue the guides.

- Regulatory Guide 1.36, "Nonmetallic Thermal Insulation for Austenitic Stainless Steel," Revision 1
- Regulatory Guide 8.11, "Applications of Bioassay for Uranium Mills," Revision 1

5. Interim Staff Guidance

The Committee considered the following Interim Staff Guidance, and decided not to review them. The Committee has no objection to the staff's proposal to issue the guidance.

- FCSS ISG-08, Revision 0, "Natural Phenomena Hazards"
- DUWP-ISG-01, "Evaluations of Uranium Recovery Facility Surveys of Radon and Radon Progeny in Air and Demonstration of Compliance with 10 CFR 20.1301"

Withdrawal of Regulatory Guide 1.1

The Committee considered the staff's bases for withdrawing Regulatory Guide 1.1, "Net Positive Suction Head for Emergency Core Cooling and Containment Heat Removal System Pumps." The Committee has no objection to the staff's proposal to withdraw this Regulatory Guide.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee considered the Executive Director for Operations' response of March 19, 2015, to comments and recommendations included in the February 12, 2015 ACRS letter on the final review of the operating license application for Watts Bar Nuclear Plant Unit 2. The Committee was satisfied with the Executive Director for Operations' response.

SCHEDULED TOPICS FOR THE 624th ACRS MEETING

The following topics are scheduled for the 624th ACRS meeting, to be held on May 7-9, 2015:

- Grand Gulf MELLLA+ License Amendment
- Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Power Plants," Rev. 3
- Preparation for the June Meeting with the Commission

Sincerely,

/RA/

John W. Stetkar
Chairman

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Sincerely,

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John W. Stetkar
Chairman

Accession No: **ML15127A232**

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