



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

March 13, 2012

Mr. R. W. Borchardt
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

**SUBJECT: RESPONSE TO FEBRUARY 27, 2012 LETTER REGARDING FINAL
DISPOSITION OF FUKUSHIMA-RELATED ACRS RECOMMENDATIONS
IN LETTERS DATED OCTOBER 13, 2011 AND NOVEMBER 8, 2011**

Dear Mr. Borchardt:

During the 592nd meeting of the Advisory Committee on Reactor Safeguards (ACRS), March 8-10, 2012, we reviewed your letter dated February 27, 2012 [1] regarding disposition of the ACRS recommendations contained in our letters of October 13, 2011 [2] and November 8, 2011 [3]. These recommendations pertain to: (1) the NRC Near-Term Task Force (NTTF) report on Fukushima [4], (2) staff's recommended actions to be taken without delay (SECY-11-0124) [5], and (3) staff's prioritization of recommended actions to be taken in response to Fukushima (SECY-11-0137) [6]. We were briefed by the staff on the screening process used to address additional issues and stakeholder recommendations, including those contained in our two letters, during our 591st meeting, February 9-11, 2012. During these reviews, we had the benefit of discussions with the staff. We also had the benefit of the documents cited.

The purpose of this letter is to comment on the staff's screening process and respond to your letter of February 27, 2012 regarding final disposition of the recommendations contained in our letters of October 13, 2011 and November 8, 2011.

CONCLUSIONS AND RECOMMENDATIONS

1. The staff's dispositions of the ACRS recommendations enumerated in our October 13, 2011 and November 8, 2011 letters are appropriate with the following exceptions:
 - i. Designation of our recommendations regarding additional hydrogen control and mitigation measures in reactor buildings for plants with Mark I and Mark II containments as Tier 3 activities is counter to their intent as near-term defense-in-depth measures. Discussions with stakeholders regarding near-term actions for additional hydrogen control and mitigation measures in plants with Mark I and Mark II containments should be included in the staff's Tier 1 actions.

- ii. Designation of our recommendations regarding fire response procedures (recommendations 1.g and 2.d) as a part of NTTF Recommendation 3 (Tier 3) is inappropriate. These recommendations should be addressed as part of NTTF Recommendation 8 (Tier 1) since integration of the fire response procedures presents similar challenges to those faced by integration of the Severe Accident Management Guidelines (SAMGs) and Extensive Damage Mitigation Guidelines (EDMGs) with the Emergency Operating Procedures (EOPs).

DISCUSSION

The NRC staff has developed a process to screen and disposition stakeholder recommendations and additional issues related to Fukushima beyond those included in the NTTF report. The process was applied to the ACRS recommendations documented in our letters of October 13, 2011 and November 8, 2011, as well as the six additional issues identified in SECY-11-0137. The results of the staff's review, along with a brief description of the review process, were documented in SECY-12-0025 [7].

The process includes an initial screening by a panel of senior-level NRC advisors based on two criteria: (1) the issue represents a valid safety concern, and (2) there is a clear nexus to the Fukushima Daiichi accident. Issues and recommendations that meet both screening criteria are forwarded for further consideration by the cognizant technical staff in the appropriate NRC line organizations to develop a proposal for disposition by the Steering Committee responsible for assessing and prioritizing Fukushima lessons learned. We find the process acceptable.

As noted in our October 13, 2011 letter, the events at Fukushima Daiichi have shown that, for BWRs with Mark I and Mark II containments, inerting the containment atmosphere as required by 10 CFR 50.44, is not, by itself, sufficient to eliminate concerns regarding combustible gas control. There are enough possible mechanisms for hydrogen release to the reactor buildings to raise concerns regarding this issue for all BWRs with Mark I and Mark II containments; the issue is not unique to the Fukushima reactors. Hence, as a defense-in-depth measure, we recommended that NTTF Recommendation 6 be expanded to include a requirement for BWR plants with Mark I and Mark II containments to implement combustible gas control measures in the reactor buildings functionally akin to those provided in the Mark III reactor buildings. We also recommended that the staff's recommended actions to be taken without delay should be expanded to include initiation of discussions with stakeholders regarding near-term actions for additional hydrogen control and mitigation measures in plants with Mark I and Mark II containments.

Our recommendations regarding additional hydrogen control and mitigation measures in reactor buildings for plants with Mark I and Mark II containments were intended as near-term defense-in-depth measures. We recommend that discussions with stakeholders regarding near-term actions for additional hydrogen control and mitigation measures in plants with Mark I and Mark II containments should be included in the staff's Tier 1 actions.

NTTF Recommendation 8 and the corresponding staff recommended actions to be taken without delay include integration of the EOPs, the SAMGs, and the EDMGs. In our October 13, 2011 letter, we recommended that these integration efforts should be expanded to include the plant fire response procedures. This recommendation was supported by experience from actual fire events which showed that parallel execution of fire procedures, Abnormal Operating Procedures (AOPs), and EOPs can be difficult and can introduce operational complexity.

Integration of the fire response procedures presents similar challenges to those faced by integration of the SAMGs and EDMGs with the EOPs. Hence, this integration effort should be addressed as part of NTTF Recommendation 8 rather than as a seismic-induced-fire issue under NTTF Recommendation 3.

We look forward to working with the staff on these important matters.

Sincerely,

/RA/

J. Sam Armijo
Chairman

REFERENCES

1. Letter from R. W. Borchardt to J. Sam Armijo, "Final Disposition of the Advisory Committee on Reactor Safeguards' Review of (1) The US Nuclear Regulatory Commission Near-Term Task Force Report on Fukushima, (2) Staff's Recommended Actions to be Taken Without Delay (SECY-11-0124), and (3) Staff's Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons-Learned (SECY-11-0137)," February 27, 2012 (ML12030A198)
2. ACRS Letter to the NRC Chairman, "Initial ACRS Review of: (1) the NRC Near-Term Task Force Report on Fukushima and (2) Staff's Recommended Actions to be Taken Without Delay," October 13, 2011 (ML11284A136)
3. ACRS Letter to the NRC Chairman, "ACRS Review of Staff's Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned (SECY-11-0137)," November 8, 2011, (ML11311A264)
4. "Recommendations for Enhancing Reactor Safety in the 21st Century, The Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," July 12, 2011 (ML111861807)
5. Notation Vote SECY-11-0124, "Recommended Actions to be Taken without Delay from the Near-Term Task Force Report," September 9, 2011 (ML11245A158)

6. Notation Vote SECY-11-0137, "Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned," October 3, 2011 (ML11272A111)
7. Notation Vote SECY-12-0025, "Proposed Orders and Requests for Information in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Tsunami," February 17, 2012 (ML12039A103)

6. Notation Vote SECY-11-0137, "Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned," October 3, 2011 (ML11272A111)
7. Notation Vote SECY-12-0025, "Proposed Orders and Requests for Information in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Tsunami," February 17, 2012 (ML12039A103)

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Letter to Mr. R.W. Borchardt, EDO, from J. Sam Armijo, ACRS Chairman, dated March 13, 2012

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