



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

February 12, 2014

Mr. Mark A. Satorius
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: PROPOSED RULEMAKING ON STATION BLACKOUT MITIGATION STRATEGIES

Dear Mr. Satorius:

We appreciate the staff's comments in the August 1, 2013, response to our June 17, 2013, letter report on this subject. Recommendation 5 in our June 2013 letter stated:

Failure of decay heat removal capability as an independent or common cause event is not within the scope of the mitigating strategies order or the proposed mitigation strategies rule. An increase in scope to include loss of decay heat removal as a separate condition and not just as a consequence of extended loss of ac power should be considered as part of the staff efforts on Near Term Task Force (NTTF) Recommendation 1 and the Risk Management Task Force (RMTF) program development.

The staff's response to our recommendation stated:

The staff agrees that the issue of the failure of decay heat removal capability (initially identified as Unresolved Safety Issue A-45 in NUREG-0705, "Identification of New Unresolved Safety Issues Relating to Nuclear Power Plants: Special Report to Congress," dated March 1981) is outside the scope of EA-12-049 and the SBOMS rulemaking. However, the staff disagrees with the ACRS suggestion that the failure of decay heat removal as an independent or common cause be considered within the ongoing activities associated with NTTF Recommendation 1 and the RMTF Report. NTTF Recommendation 1 addresses regulatory framework issues, and is not focused on specific technical issues. The RMTF is focused on a risk-informed, defense-in-depth, regulatory framework for the entire agency. Accordingly, the staff working groups addressing NTTF Recommendation 1 and the RMTF Report consider the issue of failure of decay heat removal being independent or common-cause as outside their scope and are not addressing that issue.

The staff also notes that NUREG/CR-6832, "Regulatory Effectiveness of Unresolved Safety Issue (USI) A-45 'Shutdown Decay Heat Removal Requirements'," dated August 2003 (ADAMS Accession No. ML032250456) concluded that the issue had been effectively resolved. The staff sees no reason to reopen the issue at this time, especially in view of the fact that some of the post-Fukushima actions, most notably actions involving Mark I and II vents (ordered in EA-13-109 (ADAMS Accession No. ML13130A067)) and the issuance of the mitigation strategies order (EA-12-049), would further reduce the risk of loss of decay heat removal capability.

The intent of our Recommendation 5 was to emphasize the importance of decay heat removal as a key safety function for the full spectrum of events that may affect a nuclear reactor. Station blackout (SBO) is currently being used as a surrogate for the scenarios that led to loss of decay heat removal at the Fukushima Dai-ichi plants and other beyond-design-basis events. Our letter report questioned whether a sufficient range of the possible causes for loss of decay heat removal capability had been considered in the scope of the proposed SBO mitigation strategies.

Initiating events and scenarios that evolve to a station blackout account for an important challenge to plant safety. The mitigating strategies proposed by Order EA-13-109 and the draft SBO rulemaking are intended to address that class of challenges. Other initiating events and scenarios that do not involve a complete loss of AC power can disable the decay heat removal function. The frequency and consequences of those scenarios will vary, depending on features of the specific plant design and characteristics of its site. The risk-informed, performance-based regulatory framework that has been proposed by NTF Recommendation 1 and the Risk Management Task Force emphasize the need to examine nuclear reactor safety in a context that explicitly accounts for an integrated understanding of plant-specific risk and its contributors. In that context, other potential challenges and causes for loss of the decay heat removal function would be examined in a systematic manner that accounts for their importance to overall plant risk.

In our November 20, 2013, letter report on "Draft Commission Paper, 'NRC Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report,'" we further clarified our view of the way such issues should be evaluated:

Some readers of Recommendation 1 may interpret the words "appropriately balances defense-in-depth and risk considerations" as an implication that those concepts are separable and must be considered in counterpoint fashion. We disagree with that interpretation. These concepts cannot be considered in isolation, or as potentially opposing elements in a modern regulatory framework that provides assurance of public health and safety. Decisions regarding an appropriate level of protection against a broad variety of threatening hazards must entail an objective and transparent assessment of those hazards and the effectiveness of feasible protection measures. That decision-making process should be informed by our current understanding of the risk from each hazard, our uncertainty about that risk, and consideration of defense-in-depth measures that can compensate for those uncertainties. In this integrated context, public health and safety are not assured by an evaluation of any of these fundamental elements in isolation or by regulatory criteria that examine each without the others.

A more fully risk-informed approach to evaluation of the decay heat removal safety function needs to consider other initiating events, causes, and scenarios that are not limited to only station blackout.

We look forward to discussing these issues with the staff during future meetings.

Sincerely,

/RA/

John W. Stetkar
Chairman

REFERENCES

1. ACRS Letter, Subject: "Proposed Rulemaking on Station Blackout Mitigation Strategies," June 17, 2013 (ML13161A247)
2. EDO Letter, "Response to Advisory Committee on Reactor Safeguards Regarding Proposed Rulemaking on Station Blackout Mitigation Strategies," August 1, 2013 (ML13189A125)
3. ACRS Letter, "Draft Commission Paper 'NRC Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report', "November 20, 2013 (ML13318A135)

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