

March 30, 2015

MEMORANDUM TO: Mark A. Satorius  
Executive Director for Operations

FROM: Annette L. Vietti-Cook, Secretary */RA/*

SUBJECT: STAFF REQUIREMENTS – COMSECY-14-0037– INTEGRATION  
OF MITIGATING STRATEGIES FOR BEYOND-DESIGN-BASIS  
EXTERNAL EVENTS AND THE REEVALUATION OF FLOODING  
HAZARDS

The Commission has approved the staff's recommendation 1 that licensees for operating nuclear power plants need to address the reevaluated flooding hazards within their mitigating strategies for beyond-design-basis external events; and recommendation 2 that licensees for operating nuclear power plants may need to address some specific flooding scenarios that could significantly damage the power plant site by developing targeted or scenario-specific mitigating strategies, possibly including unconventional measures, to prevent fuel damage in reactor cores or spent fuel pools. However, for recommendation 2, the Commission notes that it is within the staff's authority, and is the staff's responsibility, to determine, on a plant-specific basis, whether targeted or scenario-specific mitigating strategies, possibly including unconventional measures, are acceptable.

The Commission has disapproved the staff's recommendation 3 that the staff should revise the Near Term Task Force (NTTF) Recommendation 2.1 flooding assessments and integrate the Phase 2 decision-making into the development and implementation of mitigating strategies in accordance with the Mitigating Strategies Order and the related mitigation of beyond-design-basis events (MBDBE) rulemaking. Instead, the staff should reassess the guidance developed for the Phase 1 integrated assessments. In addition, the staff should also develop the criteria and guidance for Phase 2 of the flooding reevaluations.

In reassessing the Phase 1 integrated assessment guidance, the staff should:

- a. Include a graded approach for determining the need for, and prioritization and scope of, plant-specific integrated assessments so that the integrated assessments are focused on those plants where there is the greatest opportunity for additional safety enhancements.
- b. Use resources judiciously, and be risk-informed and performance-based, to the extent practicable, to reduce any unnecessary conservatism and identify any areas with insufficient conservatism.

- c. Evaluate potential changes to the guidance to introduce more realism for the purpose of identifying potential safety enhancements for operating reactors. For example, for local precipitation events, the staff should examine whether it is necessary for the licensee to assume that drains are clogged if there is a commitment for periodic surveillance of the drains, and if plant procedures call for verifying that drains are clear when a precipitation event is forecast.
- d. Focus on flood scenarios that could result in cliff-edge effects and where substantial safety benefits can be achieved, rather than on scenarios where limited risk improvements are expected. In doing so, the staff should continue to use engineering judgment and consider the qualitative likelihood of initiating events when quantitative tools and data are not available. For example, the staff should examine whether, at the time of a seismic event, dams and rivers should be assumed to be at nominal or typical levels, consistent with normal dam operating practices and procedures rather than at maximum levels.
- e. Consider available physical margin data in order to assess the flooding vulnerability for each site.

In developing the Phase 2 acceptance criteria and guidance, the staff should:

- a. Add clarity on how Phase 2 decisions about whether further regulatory actions are necessary will be made within the current regulatory process, including the Backfit Rule.
- b. Allow flexibility in the way in which licensees address vulnerabilities identified through the integrated assessment process that relied on hazards developed using guidance for new plants. That flexibility should include the opportunity for licensees to demonstrate that vulnerabilities identified may be less risk significant when more realistic assumptions are applied in the analyses.
- c. Take into account the fact that the licensees are protecting mitigating strategies equipment from the reevaluated flood hazard developed in accordance with the 50.54(f) letter and the associated guidance.
- d. Consider an appropriate balance between protection and mitigation based on the principle of defense-in-depth.

The NRC staff should continue to work with licensees toward the expeditious completion of the flooding hazard reevaluations in order to ensure that flooding hazards are understood for every site using the current flooding regulations and guidance. The closure of the § 50.54(f) letter should proceed in parallel with implementation and closure of Order EA-12-049 and the associated MBDBE rulemaking and should not impact the schedule for these actions.

The NRC staff should also proceed expeditiously to clearly define the steps needed to complete our actions in response to NTF Recommendation 2.1 for flooding and, within three months of the date of the SRM for COMSECY-14-0037, provide a plan for achieving closure of this recommendation to the Commission for review and approval. The plan should ensure completion of the Mitigating Strategies Orders and MBDBE rulemaking on the current schedule and provide target closure dates for the revised Phase 1 integrated assessment guidance and development of criteria and guidance for Phase 2. The plan should consider when the ACRS

should be given the opportunity to review the Phase 1 integrated assessment revised guidance and Phase 2 criteria and guidance.

(EDO)

(SECY Suspense: 6/30/15)

Future updates of post-Fukushima measures should provide more detailed information on the status of the flooding hazard reevaluations and integrated assessments, as well as the Phase 1 and Phase 2 guidance.

cc: Chairman Burns  
Commissioner Svinicki  
Commissioner Ostendorff  
Commissioner Baran  
OGC  
CFO  
OCA  
OPA