

FAQ 31: HRR – Interim Action Responses

A. TOPIC: HRR - Interim Action Responses

Source document: March 1, 2013 Eric Leeds 50.54(f) Supplemental Information Letter Section:

B. DESCRIPTION:

What methods would be considered acceptable to develop interim actions as part of the Hazard Reevaluation Report, and what are the expectations for timeliness to put the interim actions into place?

March 1, 2013 Eric Leeds 50.54(f) Supplemental Information Letter:

Interim Actions (Requested Information Item 1.d) -

Licensees whose Hazard Reevaluation results are not bounded by their current design basis were requested to describe in their 50.54(f) letter response interim actions, taken or planned, to address the reevaluated flooding hazard while the staff assesses the safety and regulatory significance of the reevaluated hazard. The staff's review of the proposed interim actions will leverage appropriate sections and concepts from existing guidance documents such as NEI 12-07, "Guidelines for Performing Verification Walkdowns of Plant Flood Protection Features and JLD-ISG-2012-05, "Guidance for Performing the Integrated Assessment for External Flooding" to evaluate the acceptability of the interim actions.

Licensees should describe the interim actions in sufficient detail to allow the NRC staff to assess their acceptability, in order to allow licensees the time needed to perform the integrated assessment and then implement permanent plant modifications, if necessary. The NRC staff will consider the appropriateness of the interim actions in the context of a licensee's ability to respond to the reevaluated flooding hazard(s) and how these actions continue to provide assurance of the licensee's ability to maintain the plant in a safe condition.

C. Initiator:

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D. RESOLUTION: (Include additional pages if necessary. Total pages: 3)

Inquiry number: 31 Priority: H

The Basis for Interim Actions

The NRC's March 2012 50.54(f) cover letter states that the current regulatory approach and the resultant plant capabilities provide confidence that an accident with consequences similar to the Fukushima accident is unlikely to occur in the United States. The NRC letter concluded that continued plant operation and the continuation of licensing activities do not pose an imminent risk to public health and safety.

The flooding reevaluations being performed in response to the NRC's March 12, 2012 50.54(f) letter are for beyond design basis events. As such, they do not constitute an immediate operability concern and are not reportable outside of the response to the 50.54(f) letter unless the reevaluation results identify concerns with the current licensing or design basis. Note however, that the new condition does need to be entered into the corrective action program for evaluation.

Methods for Developing Interim Actions

Based on the conservatism in the deterministic approaches being used to reevaluate flooding hazards in accordance with present day methodology, these events should be considered very unlikely events. Interim actions should be implemented as soon as reasonable. The time frame for development and deployment of interim actions should be informed by the relative risk(s) and frequency of occurrence (if known) of the updated extreme flooding event evaluated for the Hazard Reevaluation Report (HRR). The time frame will also be impacted

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by the significance of the scope of the interim actions, and time needed to develop and implement them. Interim actions should focus on assuring the ability to maintain the critical safety functions necessary to prevent core damage, spent fuel damage, and loss of containment integrity as a result of an external flooding event. The NRC has described interim actions in the March 1, 2013 Eric Leeds 50.54(f) Supplemental Information Letter. Also, the NRC inspection procedure TI- 2515/190 used to inspect interim actions at the sites provides additional insights on the appropriate actions to be put in place. Interim actions to meet the new beyond design basis hazard can include as part of the response:

- a. Actions taken in response to INPO IER 11-1,
- b. Actions already taken or imminent actions associated with implementation of FLEX,
- c. Actions taken to address small Available Physical Margins (APMs) identified as part of the Recommendation 2.3 Flooding design basis walkdowns,
- d. Actions taken as a result of the flooding IPEEE reviews or other site initiatives,
- e. Actions taken in response to major storms,
- f. Flood protection or mitigation capabilities that are not currently credited in the plant's current licensing basis

Note that interim actions are not expected to be permanent modifications. The Integrated Assessment will determine mitigation or protective actions to be considered by the NRC during their 10CFR50.54(f) letter section 2.1 Phase 2 review to determine if any regulatory actions are needed to protect against the updated flooding related hazards (e.g., update the design basis and protection for SSCs important to safety).

Rigor for Interim Actions

- a. All new interim flood protection features (e.g., sandbags inflatable barriers, self-inflating flood bags, ventilation louver covers) will be acquired, pre-staged and maintained to provide the planned protection or mitigation.
- b. The design of the new flood mitigation equipment will be evaluated to withstand the environmental conditions that might accompany the applicable reevaluated flood event.
- c. Station procedures will be revised to direct installation of the new flood mitigation equipment including appropriate event triggers to activate the procedures.
- d. Training on the use and installation of the new flood mitigation equipment will be conducted for all necessary personnel.
- e. Installation of the new flood mitigation equipment will be evaluated to ensure that it can be properly installed within the planned timeframes using reasonable simulations, or other appropriate methods.

Lessons Learned

The following lessons learned were captured from a review of the interim actions included in the Hazard Reevaluation Reports submitted to the NRC in 2013 (based on information presented by the NRC during an NRC public meeting on 12-19-13):

- a. Descriptions of the interim actions – Interim actions need to be described in sufficient detail to enable the regulator to review them for adequacy. In some cases interim actions included: "TBD's", had few descriptive details, or a lacked clarity about the purpose of the interim actions. The description of the interim actions need to specifically address and relate the interim actions to the new flooding impacts on the site.
- b. Trigger for implementation of the interim actions – for any actions that are not passive, the trigger that would initiate the implementation of the interim actions needs to be described. Also, the forecasting method used and the assumed response time should be described in the interim action response.
- c. Information about manual actions – include the results of the reasonable simulations used to confirm the viability of the manual actions. Also, include discussion on whether procedure changes and training needs have been addressed. A detailed description of procedure changes and training is not required.

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- d. Consistency with readily available standards and common flood protection practices – describe the standards used or common flood practices employed such as: configuration of sandbag walls, use of sump pumps for in-leakage, and bypass route resolution.
- e. Addressing related effects of interim actions – describe the resolution of any interim actions that will impact other site SSC's or personnel availability during or after the flooding response (examples: effects of louver covers on equipment ventilation/cooling, increased burden on plant personnel)

Revision: 7 Date: 1/27/14

E. NRC Review:

Not Necessary X

Necessary _____

Explanation: This topic has been reviewed with the NRC and their comments addressed, but a formal acceptance by the NRC will not be provided.

F. Industry Approval:

Documentation Method: _____ Date: _____

G. NRC Acceptance:

Interpretation _____

Agency Position _____

Documentation Method: _____ Date: _____