

NUCLEAR REGULATORY COMMISSION

[NRC-2016-0084]

**Guidance for Closure of Activities Related to Recommendation 2.1,
Flooding Hazard Reevaluation**

AGENCY: Nuclear Regulatory Commission.

ACTION: Interim staff guidance; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing the final Japan Lessons-Learned Division Interim Staff Guidance (JLD-ISG), JLD-ISG-2016-01, "Guidance for Activities Related to Near-Term Task Force Recommendation 2.1, Flooding Hazard Reevaluation; Focused Evaluation and Integrated Assessment." The JLD-ISG provides guidance and clarification to assist operating power reactor licensees and holders of construction permits under the NRC's regulations with the performance of the focused evaluations and revised integrated assessments for external flooding.

DATES: This guidance is effective on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID NRC-2016-0084 when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available

information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-2016-0084. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**
You may obtain publicly available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. For the convenience of the reader, the ADAMS accession numbers are provided in a table in the "Availability of Documents" section of this document.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

- **NRC's Interim Staff Guidance Web Site:** <http://www.nrc.gov/reading-rm/doc-collections/isg/japan-lessons-learned.html>

FOR FURTHER INFORMATION CONTACT: Eric Bowman, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-2963; e-mail: Eric.Bowman@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Background

Following the events at the Fukushima Dai-ichi nuclear power plant on March 11, 2011, the NRC established a senior-level agency task force referred to as the Near-Term Task Force (NTTF). The NTTF was tasked with conducting a systematic and methodical review of the NRC regulations and processes, and determining if the agency should make additional improvements to these programs in light of the events at Fukushima Dai-ichi. As a result of this review, the NTTF developed a comprehensive set of recommendations, documented in SECY-11-0093, "Recommendations for Enhancing Reactor Safety in the 21st Century, the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated July 12, 2011. These recommendations were enhanced by the NRC staff following interactions with stakeholders. Documentation of the staff's efforts is contained in SECY-11-0124, dated September 9, 2011, and SECY-11-0137, dated October 3, 2011.

As directed by the Commission's SRM for SECY-11-0093, the NRC staff reviewed the NTTF recommendations within the context of the NRC's existing regulatory framework and considered the various regulatory vehicles available to the NRC to implement the recommendations. In SECY-11-0124 and SECY-11-0137, the staff established the prioritization of the recommendations. After receiving the Commission's direction in SRM-SECY-11-0124 and SRM-SECY-11-0137, the NRC staff issued a request for information pursuant to section 50.54(f) of title 10 of the *Code of Federal Regulations* (10 CFR), "Conditions of licenses," on March 12, 2012, requesting licensees to reevaluate the seismic and flooding hazards at their sites using updated hazard information and current regulatory guidance and methodologies. For plants where the reevaluated hazard exceeds the plant's design basis, the licensee was to conduct an integrated assessment. The information gathering is considered to be Phase 1 and was requested to support Phase 2 decision-making and determine whether available or

planned measures provide sufficient protection and mitigation capabilities or if further regulatory action should be pursued in the areas of seismic and flooding design, and emergency preparedness.

In COMSECY-14-0037, dated November 21, 2014, the NRC staff requested that the Commission review and approve changes to revise the Recommendation 2.1 flooding assessments and integrate the Phase 2 decision-making into the development and implementation of mitigating strategies in accordance with Order EA-12-049 and the related Mitigation of Beyond-Design-Basis Events rulemaking.

In SRM-COMSECY-14-0037, the Commission disapproved this recommendation. Instead, the Commission instructed the staff to develop a closure plan for the flooding reevaluation activities and to reassess the existing guidance for performing a Phase 1 integrated assessment in order to focus on those plants with the most potential for safety benefits.

In COMSECY-15-0019, the staff provided revised guidance for performing a Phase 1 integrated assessment and described a modified process for identifying the list of plants that would be required to perform an integrated assessment. The process proposed by the staff included the development of a graded, risk-informed and performance-based approach consistent with Commission direction to focus on those plants with the greatest potential opportunity for safety enhancements. Specifically, the process included consideration and evaluation of local intense precipitation by performing a focused evaluation of the impact of the hazard and implementing any necessary programmatic, procedural, or plant modifications to address the hazard, taking into account available warning time. The process also considered flood protection and available physical margin, where licensees will confirm the capability of existing flood protection to address the hazard exceedance by performing a focused evaluation. For licensees where the reevaluated hazard cannot be addressed via existing or planned flood

protection, the process also includes the performance of an integrated assessment, using revised guidance, in order to conduct more detailed evaluations of plant response capability. This revised integrated assessment will capture, among other information, quantitative characteristics about the effectiveness of various aspects of plant response (e.g., reliability of equipment and feasibility of manual actions), and risk insights with a focus on cliff-edge effects. The results will be used by the NRC to determine whether additional regulatory action, such as a plant- specific backfit, are warranted.

In SRM-COMSECY-15-0019, the Commission approved the staff's plans to modify the approach for integrated assessments to implement a graded approach for determining the need for, and prioritization and scope of, plant-specific integrated assessments. As discussed in COMSECY-15-0019, the majority of sites with reevaluated flooding hazards exceeding the design-basis flood are expected to screen out from the integrated assessment process. The licensees will instead provide focused evaluations to ensure appropriate actions are taken and that these actions are effective and reasonable.

The Nuclear Energy Institute (NEI) submitted guidance NEI 16-05, "External Flooding Assessment Guidelines," Revision 1, on June 10, 2016. The revised guidance is an industry-developed methodology that describes the flooding impact assessment process, which is intended to meet the requested information of an integrated assessment, as described in the document titled, "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," and to incorporate the changes described in COMSECY-15-0019. This revised guidance will be publicly available and used by members of the industry to help develop their responses to the § 50.54(f) letter, including the performance of focused evaluations and integrated assessments, and by the NRC staff in its reviews of the licensees' evaluation.

On April 22, 2016 (81 FR 23758), the NRC requested public comments on draft JLD-ISG-2016-01. The NRC staff received comments from two stakeholders which were considered in the development of the final JLD-ISG-16-01. The questions, comments, and staff resolutions of those comments are contained in “NRC Responses to Public Comments: Revision to Japan Lessons-Learned Division Interim Staff Guidance JLD-ISG- 2016-01: Guidance for Activities Related to Near-Term Task Force Recommendation 2.1, Flooding Hazard Reevaluation; Focused Evaluation and Integrated Assessment” (ADAMS Accession No. ML16165A103).

II. Congressional Review Act

This JLD-ISG is a rule as defined in the Congressional Review Act (5 U.S.C. §§ 801-808). However, the Office of Management and Budget has not found it to be a major rule as defined in the Congressional Review Act.

III. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated.

DOCUMENT TITLE	ADAMS ACCESSION NO.
Request for Information Pursuant to Title 10 of the <i>Code of Federal Regulations</i> (10 CFR) 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident, dated March 12, 2012	ML12053A340

SECY-11-0093, "Recommendations for Enhancing Reactor Safety in the 21st Century, the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated July 12, 2011	ML11186A950
Commission's staff requirements memorandum (SRM) for SECY-11-0093, dated August 19, 2011	ML112310021
SECY-11-0124, "Recommended Actions to be Taken Without Delay from the Near-Term Task Force Report," dated September 9, 2011	ML11245A158
SRM-SECY-11-0124, dated October 18, 2011	ML112911571
SECY-11-0137, "Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned," dated October 3, 2011	ML11272A111
SRM-SECY-11-0137, dated December 15, 2011	ML113490055
COMSECY-14-0037, "Integration of Mitigating Strategies for Beyond-Design-Basis External Events and the Reevaluation (sic) of Flooding Hazards," dated November 21, 2014	ML14238A616
SRM-COMSECY-14-0037, dated March 30, 2015	ML15089A236
COMSECY-15-0019, "Closure Plan for the Reevaluation of Flooding Hazards for Operating Nuclear Power Plants," dated June 30, 2015	ML15153A104
SRM-COMSECY-15-0019, dated July 28, 2015	ML15209A682

NEI 16-05, "External Flooding Assessment Guidelines," Rev. 1, dated June 10, 2016	ML16165A176
JLD-ISG-2016-01 "Guidance For Activities Related To Near-Term Task Force Recommendation 2.1, Flooding Hazard Reevaluation; Focused Evaluation and Integrated Assessment," Revision 0	ML16162A301
"NRC Responses to Public Comments: Revision to Japan Lessons-Learned Division Interim Staff Guidance JLD-ISG- 2016-01: Guidance for Activities Related to Near-Term Task Force Recommendation 2.1, Flooding Hazard Reevaluation; Focused Evaluation and Integrated Assessment"	ML16165A103

Dated at Rockville, Maryland, this 12th day of July, 2016.

FOR THE NUCLEAR REGULATORY COMMISSION.

/RA/

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NEI 16-05, "External Flooding Assessment Guidelines," Rev. 1, dated June 10, 2016	ML16165A176
JLD-ISG-2016-01 "Guidance For Activities Related To Near-Term Task Force Recommendation 2.1, Flooding Hazard Reevaluation; Focused Evaluation and Integrated Assessment," Revision 0	ML16162A301
"NRC Responses to Public Comments: Revision to Japan Lessons-Learned Division Interim Staff Guidance JLD-ISG- 2016-01: Guidance for Activities Related to Near-Term Task Force Recommendation 2.1, Flooding Hazard Reevaluation; Focused Evaluation and Integrated Assessment"	ML16165A103

Dated at Rockville, Maryland, this 12th day of July, 2016.

FOR THE NUCLEAR REGULATORY COMMISSION.

/RA/

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