

GENERIC ISSUE MANAGEMENT CONTROL SYSTEM REPORT FOR THE FIRST HALF OF FISCAL YEAR 2021

SUMMARY STATUS OF ACTIVE GENERIC ISSUES

During this reporting period (October 2020 through March 2021), the U.S. Nuclear Regulatory Commission (NRC) staff concluded its implementation of one open generic issue (GI) and continued its assessment of one proposed GI.

In regard to the one open generic issue, all licensees have completed all required actions, and the Office of Nuclear Reactor Regulation (NRR) has completed verifications to resolve Generic Issue 199 (GI-199), “Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States on Existing Plants.” In addition, NRR sent a memorandum to the Office of Nuclear Regulatory Research (RES) recommending closure of GI-199 dated, November 30, 2020 (Agencywide Document Access and Management System [ADAMS] Accession No. ML20290A626). The RES Office Director subsequently issued a closeout memorandum on December 15, 2020, (ADAMS Accession No.: ML20344A277) officially closing out GI-199. No further actions will be taken.

In regard to the proposed GI related to the effects of high energy arc faults (HEAF) involving aluminum at nuclear power plants, the staff continued to assess whether the issue should proceed to the implementation stage of the GI process. To accomplish this, the NRC has established an expert working group with the Electric Power Research Institute (EPRI) under a memorandum of understanding to research the safety significance of the issue and make technical recommendations. The NRC and EPRI have assembled a group of experts and formed a working group to study this issue. The working group is currently reviewing operating experience and test data to develop improved aluminum HEAF Zones of Influence (ZOIs) and improved probabilistic risk assessment (PRA) methods needed to accurately analyze the potential hazard.

EPRI has completed the industry survey and determined that aluminum is present in all U.S. NPPs. The NRC is currently conducting small-scale cable fragility testing at Sandia National Laboratories to determine target damage from HEAFs. This is the final data needed for the joint working group to develop new ZOIs. The working group expects to complete the analysis of the data and development of new ZOIs in the summer/fall 2021. The NRC has established a HEAF Web site and has conducted a public meeting on April 6, 2021, to keep all interested stakeholders informed on the progress of this issue.

The sections below summarize the regulatory actions associated with GI-199. Additional information on the current status of these GIs appears on the GI dashboard on the NRC’s public Web site: <http://www.nrc.gov/about-nrc/regulatory/genissues/dashboard.html>.

GI-199, “Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States on Existing Plants”

This GI addressed how current estimates of the seismic hazard level at some nuclear sites in the central and eastern United States might be higher than the values used in their original designs and previous evaluations. Following collaboration with EPRI, the NRC staff issued a safety/risk assessment report, “Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States on Existing Plants,” in August 2010 (ADAMS Accession No. ML100270639). In addition, on September 2, 2010, the NRC staff issued Information Notice 2010-18, “Generic Issue 199, ‘Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States on Existing Plants’” (ADAMS Accession No. ML101970221).

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Following the March 2011 nuclear event at the Fukushima Dai-ichi nuclear reactors in Japan, the NRC incorporated GI-199 into its response activities. Consequently, as part of a March 12, 2012, request for information under Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(f), the NRC asked all nuclear power plants to reevaluate their seismic hazards using present-day guidance and methods (ADAMS Accession No. ML12053A340).

On July 3, 2019, the NRC staff issued a letter, "Treatment of Reevaluated Seismic Hazard Information Provided Under Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident" (ADAMS Accession No. ML19140A307). The treatment of seismic hazard information reflects the Commission's direction in the Affirmation Notice and Staff Requirements Memorandum (SRM) dated January 24, 2019 (ADAMS Accession No. ML 19023A038), associated with SECY-16-0142, "Draft Final Rule-Mitigation of Beyond-Design-Basis Events [MBDBE] (RIN 3150-AJ49)" (ADAMS Accession No. ML 16291A186). At that time, based on the reevaluated seismic hazard information that had been provided to date, only seismic probabilistic risk assessments (SPRA) report reviews that had not yet received a staff assessment could have potentially led to the staff identifying a need for modifying, suspending, or revoking a license.

Status:

1. The NRC staff screened in 34 sites to submit expedited seismic evaluation process (ESEP) reports. The ESEP reports confirmed that adequate seismic margin exists to safely shut down the plants without the need for modifications while lengthier seismic evaluations were being conducted. The NRC staff has completed its reviews of all 34 ESEP reports. Licensees have notified the NRC that all required upgrades have either been completed or deferred (with justification) to the SPRA.
2. The NRC staff screened in 51 sites to perform 1 or more limited-scope evaluations (i.e., high-frequency evaluations, spent fuel pool low-hazard evaluations, or spent fuel pool high-hazard evaluations).
 - Nine sites screened out of any further seismic evaluations.
 - The NRC staff completed reviews of 1 low-frequency evaluation, 34 high-frequency evaluations, 30 spent fuel pool low-hazard evaluations, and 8 spent fuel pool high hazard evaluations.
 - The NRC staff has now completed its review of all 51 sites requiring a limited-scope seismic evaluation.
3. The NRC required 20 sites to submit SPRAs to the NRC for review and approval.
 - Two sites previously provided supplemental information and were screened out from having to complete an SPRA. No further regulatory actions were required.
 - McGuire
 - Catawba

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- One site permanently shut down on May 31, 2019, and was not required to submit any further seismic evaluations, including an SPRA.
 - Pilgrim Nuclear Station

- Two sites have received NRC approval for deferrals past their announced early shutdown dates. The NRC expects that if a deferred site remains in operation longer than previously communicated, the licensee would respond to the 50.54(f) letter by completing any deferred assessment(s).
 - Indian Point
 - Palisades

- Fifteen sites have submitted their SPRAs to the NRC for staff review and approval. All fifteen sites have been reviewed and approved by the NRC. No further regulatory actions were required for these sites.
 - Beaver Valley
 - Browns Ferry
 - Callaway
 - Columbia
 - DC Cook
 - Dresden
 - Diablo Canyon
 - North Anna
 - Oconee
 - Peach Bottom
 - Robinson
 - Sequoyah
 - VC Summer
 - Vogtle
 - Watts Bar

In summary, all licensees have completed all required actions, and NRR has completed verifications to resolve GI-199. NRR sent a memorandum to the Office of Nuclear Regulatory Research (RES) recommending closure of GI-199 dated November 30, 2020. The RES Office Director subsequently issued a closeout memorandum on December 15, 2020, officially closing out GI-199. No further actions will be taken.