GENERIC ISSUE MANAGEMENT CONTROL SYSTEM REPORT
FOR THE FIRST HALF OF FISCAL YEAR 2020

SUMMARY STATUS OF ACTIVE GENERIC ISSUES

During this reporting period (October 2019 through March 2020), the U.S. Nuclear Regulatory Commission (NRC) staff continued its implementation of two open generic issues (GIs) and its assessment of one proposed GI.

The staff continued its assessment of the proposed GI on the effects of high-energy arcing faults involving aluminum at nuclear power plants to determine whether the issue should proceed to the regulatory office implementation stage of the GI process. In particular, the NRC has established an Expert Working Group in conjunction with the Electric Power and Research Institute (EPRI) under a Memorandum of Understanding (MOU) to research the safety significance of the issue and to provide technical recommendations. The Expert Working Group is currently developing a detailed project plan, evaluating existing test data and operating experience, evaluating potential fire modeling and Probabilistic Risk Assessment (PRA) approaches, and surveying the U.S. nuclear power plants to determine the locations and extent of aluminum components used in low- and medium- voltage electrical equipment.

The Office of Nuclear Reactor Regulation (NRR) is currently in the process of resolving the two open GIs (GI-199 and GI-204) that are in the Regulatory Office Implementation stage of the GI process. The sections below summarize the regulatory actions associated with these open GIs. Additional information on the current status of these open 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 addresses 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).

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). All sites submitted their reevaluated seismic hazard reports to the NRC by March 2015. The staff completed its assessment of the reevaluated seismic hazard reports by December 2016.

Enclosure

Based on the staff's assessment of the licensees' reevaluated seismic hazards reports, the staff refined the requirements for individual plants to complete seismic probabilistic risk assessments (SPRAs) or other limited-scope seismic evaluations. The NRC staff determined which sites were required to complete individual plant evaluations and specified the level of evaluation in the NRC's final determination letter dated October 27, 2015 (ADAMS Accession No. ML15194A015). Nine sites screened out of any further seismic evaluations.

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.

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).

- 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.

The NRC required 20 sites to submit SPRAs to the NRC for review and approval. These sites had the following status as of March 2020:

- Two sites previously provided supplemental information and were screened out from having to complete an SPRA. No further regulatory actions are required.

    - McGuire
    - Catawba

- One site permanently shut down on May 31, 2019, and is 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.
    - Eight sites have been reviewed and approved by the NRC. No further regulatory actions are required for these sites.
        - Beaver Valley
        - Diablo Canyon
        - North Anna
        - Oconee
        - Peach Bottom
        - VC Summer
        - Vogtle
        - Watts Bar
    - Seven sites are currently under NRC review.
        - Browns Ferry
        - Callaway
        - Columbia
        - DC Cook
        - Dresden
        - Robinson
        - Sequoyah
- During this reporting period:
    - The NRC received SPRA reports from Browns Ferry, DC Cook, Dresden, Robinson, and Sequoyah.
    - The NRC staff completed its review of the SPRA for Oconee.

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). Based on the reevaluated seismic hazard information that has been provided to date, only SPRA report reviews that have not yet received a staff assessment could potentially lead to the staff identifying a need for modifying, suspending, or revoking a license.

In summary, the NRC staff has completed its assessment and closed out all required actions on seismic hazard reevaluations for 50 reactor sites. That leaves 7 sites pending final NRC approval of their SPRAs, and 2 sites awaiting permanent shut down, which have received a deferral or relief past their announced early shutdown dates. Based upon current schedules, the staff expects that it will complete activities associated with GI-199 by the end of 2020.

GI-204, "Flooding of Nuclear Power Plant Sites Following Upstream Dam Failure"

This GI relates to potential flooding effects from upstream dam failure on nuclear power plant sites, spent fuel pools, and sites undergoing decommissioning with spent fuel stored in spent fuel pools. NRR proposed this GI in July 2010, and the GI has been subsumed as part of the implementation of the recommendations from the agency's Japan Near-Term Task Force.

In March 2012, the NRC sent letters to licensees requesting information under 10 CFR 50.54(f) about the reevaluation of all flood hazards, including dam failures, using present-day guidance and methodologies (ADAMS Accession No. ML12053A340). All sites have completed flood hazard reevaluations in response to the March 2012 request. The NRC has issued staff assessments for all of the flood hazard reevaluation reports.

The NRC required those sites that had flood-causing mechanisms that exceeded the current design basis to perform an additional analysis. On June 30, 2015, the staff presented a plan to the Commission in COMSECY-15-0019, "Closure Plan for the Reevaluation of Flooding Hazards for Operating Nuclear Power Plants" (ADAMS Accession No. ML15153A104), to complete the analysis. In response, on July 28, 2015, the Commission issued an SRM to COMSECY-15-0019 approving the staff's plan (ADAMS Accession No. ML15209A682). The plan included the option for sites to perform a focused evaluation to fully complete their response to the 10 CFR 50.54(f) request for information without needing to perform an integrated assessment, depending on the hazard and the site's response to the updated flood hazard.

On April 21, 2016, the Nuclear Energy Institute (NEI) issued NEI 16-05, "External Flooding Assessment Guidelines" (ADAMS Accession No. ML16159A077), that describes the Flooding Impact Assessment Process (FIAP) to assess the impacts of flood mechanisms not bounded by the design-basis flood level. The NRC endorsed revision 1 of NEI 16-05 (ADAMS Accession No. ML16165A178) as an acceptable method to complete the FIAP. The FIAP provides guidance for licensees to perform either a focused evaluation or an integrated assessment.

The staff expects 54 sites to submit either focused evaluations (48) or integrated assessments (6) to the NRC for review. An additional 6 sites have their reevaluated hazard mechanisms bounded by the site's current design basis and are not required to submit additional evaluations. The evaluations have the following status as of March 2020:

1. Forty-eight sites meet the criteria to perform a focused evaluation.

    - Forty-six sites have submitted their focused evaluations to the NRC.

        - Forty-three sites have been reviewed, and the NRC staff has issued its assessments. No further regulatory actions are required for these sites.

        - Three remaining focused evaluations are currently being reviewed by NRC staff for the following sites:
            – Browns Ferry
            – Perry
            – Watts Bar

- Two sites were granted exceptions from submittals.

    - Indian Point has been granted deferral of its due date to a date after its anticipated early permanent shutdown date.
    - Pilgrim was permanently shut down in May 2019 and has received NRC relief from the response requirements of the 50.54(f) letter.

- During this reporting period:

    - The staff completed its review of the focused evaluation for Sequoyah.
    - Four sites submitted their focused evaluations to the NRC: Browns Ferry, Perry, Sequoyah, and Watts Bar.

2. Six sites have submitted integrated assessments to the NRC.

- For four sites, the NRC staff has issued its evaluation of their integrated assessments. No further regulatory actions are required for these sites.

- For two sites, the NRC staff is currently reviewing their integrated assessments.
  – Millstone
  – Surry

- During this reporting period:

    - Millstone and Surry submitted their integrated assessments to the NRC.
    - The NRC staff completed its review of the integrated assessments for Cooper and H. B. Robinson.

On August 20, 2019, the NRC staff issued a letter to all licensees, “Treatment of Reevaluated Flood 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 Daiichi Accident” (ADAMS Accession No. ML19067A247). The treatment of flood hazard information reflects the Commission's direction in the Affirmation Notice and Staff Requirements Memorandum (SRM) dated January 24, 2019 (ADAMS Accession No. ML19023A038), associated with SECY-16-0142, "Draft Final Rule - Mitigation of Beyond-Design-Basis Events [MBDBE] (RIN 3150-AJ49)" (ADAMS Accession No. ML16291A186). The letter stated that based on the reevaluated flood hazard information that has been provided to date, only flooding focused evaluations and integrated assessments that had not yet received a staff assessment could potentially lead to the staff identifying a need for modifying, suspending, or revoking a license.

In summary, the NRC staff has completed its assessment and closed out all required actions concerning flooding hazard reevaluations for 53 reactor sites, 43 sites through focused evaluations, 4 through integrated assessments, and 6 sites currently bounded by their current design bases. That leaves 5 sites pending final NRC review of either their focused evaluations or their integrated assessments, and 2 sites awaiting permanent shut down, which have received a deferral of their due date past their announced early shutdown dates or NRC relief because they are permanently shut down. Based upon current schedules, the staff expects that it will complete activities associated with GI-204 by the end of 2020.