



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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February 9, 2017

Mr. Fadi Diya  
Senior Vice President and Chief  
Nuclear Officer  
Ameren Missouri  
Callaway Plant  
P.O. Box 620  
Fulton, MO 65251

SUBJECT: CALLAWAY PLANT, UNIT 1 – FLOOD HAZARD MITIGATION STRATEGIES  
ASSESSMENT (CAC NO. MF7907)

Dear Mr. Diya:

By letter dated March 12, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340), the U.S. Nuclear Regulatory Commission (NRC) issued a request for information to all power reactor licensees and holders of construction permits in active or deferred status, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.54(f), (hereafter referred to as the "50.54(f) letter"). The request was issued in connection with implementing lessons learned from the 2011 accident at the Fukushima Dai-ichi nuclear power plant, as documented in the NRC's Near-Term Task Force (NTTF) report (ADAMS Accession No. ML111861807).

Enclosure 2 to the 50.54(f) letter requested that licensees reevaluate flood hazards for their sites using present-day methods and regulatory guidance used by the NRC staff when reviewing applications for early site permits and combined licenses (ADAMS Accession No. ML12056A046). Concurrent with the reevaluation of flood hazards, licensees were required to develop and implement mitigating strategies in accordance with NRC Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" (ADAMS Accession No. ML12054A735). In order to proceed with implementation of Order EA-12-049, licensees used the current licensing basis flood hazard or the most recent flood hazard information, which may not be based on present-day methodologies and guidance, in the development of their mitigating strategies.

By letter dated March 8, 2013, (ADAMS Accession No. ML13071A315), Union Electric Company (the licensee), doing business as Ameren Missouri, submitted its flood hazard revaluation report (FHRR) for Callaway Plant, Unit 1 (Callaway). The FHRR was supplemented by additional information in a letter dated February 27, 2014 (ADAMS Accession No. ML14059A232).

By letter dated October 29, 2014 (ADAMS Accession No. ML14290A532), the NRC staff provided its staff assessment of the Callaway FHRR. The NRC staff confirmed the licensee's

conclusion that the reevaluated hazard results for each reevaluated flood-causing mechanism are bounded by the current design basis (CDB) flood hazard or do not inundate the plant site and that the performance of an integrated assessment was not necessary.

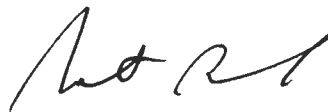
By letter dated September 1, 2015 (ADAMS Accession No. ML15174A257), the NRC described changes in the approach to flood hazard reevaluations to coordinate the hazard information with the mitigating strategies for beyond-design-basis external events. One of the changes is to ensure the any impact of the reevaluated hazards on the mitigating strategies are appropriately evaluated. By letter dated November 20, 2015 (ADAMS Accession No. ML15314A108), the NRC staff confirmed that the reevaluated hazard results for each reevaluated flood-causing mechanism are bounded by the CDB flood hazard and an integrated assessment or focused evaluation is not necessary for Callaway. This letter went on to state, "the licensee is expected to perform an MSA (Mitigating Strategies Assessment) for Callaway." In order to clarify the expectation for Callaway, a meeting was held via telephone between NRC staff and Callaway staff on December 1, 2015. During this call, the NRC staff clarified that the expectation for Callaway is to submit a brief response stating that the reevaluated flood hazard is bounded by the CDB and therefore no further action, including performance of an MSA, is required. By letter dated April 6, 2016 (ADAMS Accession No. ML16097A615), Callaway confirmed that the reevaluated flood hazard is bounded by the CDB, and that an MSA will not be performed.

The NRC staff evaluated the Callaway strategies as developed and implemented under order EA-12-049. This evaluation is documented in a safety evaluation issued by letter dated February 2, 2017 (ADAMS Accession No. ML17010A332). The safety evaluation concluded that Callaway has developed guidance and proposed designs which, if implemented appropriately, will adequately address the requirements of Order EA-12-049. The Callaway strategies were developed using the CDB flood hazard information.

Since the reevaluated flood hazards were bounded by the CDB flood hazard, the licensee has demonstrated that the mitigation strategies are reasonably protected from reevaluated flood hazards conditions for beyond-design-basis external events. Thus, the NRC staff concludes that Callaway has adequately addressed the reevaluated hazards within their described mitigating strategies. This closes out the NRC's efforts associated with CAC No. MF7907.

If you have any questions, please contact me at 301-415-2621 or at [Robert.Bernardo@nrc.gov](mailto:Robert.Bernardo@nrc.gov).

Sincerely,



Robert Bernardo, Project Manager  
Hazards Management Branch  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation

Docket No: 50-483

cc: Distribution via Listserv

F. Diya

CALLAWAY PLANT, UNIT 1 – FLOOD HAZARD MITIGATION STRATEGIES ASSESSMENT  
DATED February 9, 2017

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