UNITED STATES
NUCLEAR REGULATORY COMMISSION
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March 26, 2015

Ms. Cecilia Tapia
Director, Environmental Science
& Technology Division (ENST)
U.S. Environmental Protection Agency – Region 7
11201 Renner Blvd.
Lenexa, KS 66219

SUBJECT: RESPONSE TO ENVIRONMENTAL PROTECTION AGENCY COMMENTS REGARDING THE FINAL PLANT-SPECIFIC SUPPLEMENT 51 TO THE GENERIC ENVIRONMENTAL IMPACT STATEMENT FOR LICENSE RENEWAL OF NUCLEAR PLANTS REGARDING CALLAWAY PLANT, UNIT 1

Dear Ms. Tapia:

On December 15, 2014, the Environmental Protection Agency (EPA), Region 7, provided comments to the final Supplemental Environmental Impact Statement (SEIS) pertaining to the license renewal of Callaway Plant (Callaway), Unit 1 (NUREG-1437, Supplement 51). In that letter, EPA has three recommendations:

(1) Provide further discussion in the Record of Decision (ROD) to address how NUREG-1437 and NUREG-2157, as well as the SEIS, relate to ongoing operations, including independent spent fuel storage installation (ISFSI) construction, during the license renewal period,
(2) Provide information in the ROD regarding the completion date for the ISFSI, a projected loading date, and the design capacity for the ISFSI, and
(3) Provide a discussion in the ROD about the potential impacts of changing climate and hydrologic conditions of the Missouri River Basin on Callaway operations, and also to provide a discussion of how the results of the 2012 information request to all licensees has been incorporated into the Callaway's preparedness and response plans. The 2012 information request asks the licensees to reevaluate, using present-day information, flooding hazards beyond design basis accidents that could affect the sites.

As an independent Federal Agency, the NRC implements the National Environmental Policy Act of 1969 (NEPA) in accordance with its regulations in 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions." In evaluating the potential environmental impacts of license renewal, the NRC prepares a site-specific supplemental environmental impact statement (SEIS) to its "Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS)."

The generic environmental issues associated with license renewal of a nuclear power plant were evaluated in the GEIS (NUREG-1437). In developing the GEIS, the NRC performed a comprehensive evaluation of nuclear power plants in the United States to assess the scope and impact to public health and safety and the environment from the continued operation of a nuclear power plant for an additional 20 years of operation. The evaluations and conclusions reached for given resource areas in the GEIS provide the technical basis for the NRC staff to demonstrate that the environmental impacts were analyzed and resolved in a generic fashion and were classified as Category 1 issues. Category 1 issues are those that have been evaluated and determined to apply to all plants, have a single significance level of impact (i.e., SMALL, MODERATE, or LARGE), and have been determined that the use of mitigation measures to further limit adverse impacts associated with the issue have been considered and found to not be sufficiently beneficial to warrant implementation. Category 1 issues are termed "generic" issues because the conclusions related to their impacts were found to be common to all plants. Issues that were resolved generically are generally not reevaluated in each individual plant SEIS because the conclusions reached would be the same as in the GEIS. However, if during the review, new and significant information is discovered that conflicts or calls into question the generic findings reached in the GEIS for a particular environmental issue, then a site-specific evaluation of the issue is performed and reported in the SEIS. Category 2 issues are those that are not generic to all plants and thus require a site-specific evaluation.

The GEIS is used to avoid duplication and allow the NRC staff to focus specifically on those issues that are unique to a particular plant. The NRC's preparation and issuance of a site-specific SEIS to supplement the GEIS embodies the concept of tiering that was promulgated by the President's Council on Environmental Quality in its 1978 regulations that implemented the requirements of NEPA.

In accordance with 10 CFR Part 51, the NRC performed an environmental review of Ameren Corporation's Callaway Plant, Unit 1, license renewal application to evaluate the environmental effects of operating the facility for an additional 20 years. The NRC staff's site-specific environmental review is contained in the SEIS. The final SEIS for Callaway was issued in October 2014 as NUREG-1437, Supplement 51.

As part of the NRC's license renewal process, a Record of Decision (ROD) for the Callaway plant was issued as specified in 10 CFR 51.103. The ROD contains a summary of all the environmental issues, including the storage of spent fuel, evaluated by the NRC staff and documented in NUREG-1437, Supplement 51.

Regarding recommendation (1), the environmental impacts associated with the storage of spent nuclear fuel during the license renewal term were evaluated in the GEIS. Based on information from U.S. operating nuclear power plants, the GEIS classified this issue as Category 1, with SMALL impacts. This determination was based primarily on data which showed compliance by all power reactor licensees with NRC regulations for power plant operation in 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities" and, specific to spent fuel storage, 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste." Compliance

with NRC regulations is evaluated by the NRC on an ongoing basis as part of its inspection and enforcement. If the NRC were to find a noncompliance with these requirements or otherwise identify a concern with the safe storage of the spent fuel, the NRC would evaluate the issue and take action to ensure protection of public health and safety and the environment. The NRC will provide appropriate oversight of the handling and storage of spent fuel at Callaway on an ongoing basis through the reactor oversight process.

The NRC staff discussed the impacts from the storage of spent fuel at Callaway in Section 6.1, "The Uranium Fuel Cycle," of the final SEIS. The NRC staff did not identify any new and significant information that would require a site-specific evaluation. Therefore, the NRC staff concluded that there were no impacts related to spent fuel beyond those discussed in the GEIS. The NRC staff also addressed the cumulative environmental impacts of the storage of spent fuel in the spent fuel pool, as well as the construction and operation of an ISFSI in Sections 4.12.4, 4.12.5, 4.12.6, and 4.12.7 of the Callaway SEIS.

In addition, the NRC recently completed a rulemaking to revise 10 CFR 51.23, "Environmental Impacts of Continued Storage of Spent Nuclear Fuel beyond the Licensed Life for Operation of a Reactor" to determine the environmental impacts associated with the continued storage of spent fuel. The rule is supported by a GEIS, NUREG-2157, "Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel" that provides the technical basis for the rule. The NRC determined in the GEIS that the direct and indirect environmental impacts of continued storage at reactors can be analyzed generically. Therefore, for each of the resource areas analyzed in the GEIS, the NRC has reached a generic determination (SMALL, MODERATE, LARGE, or a range) that is appropriate for all sites. As discussed in the GEIS, these impact determinations are not expected to differ from those that would result from individual site-specific reviews for the continued storage period. The impacts determined in NUREG-2157 are deemed incorporated into environmental impact statements that involve spent fuel, including Callaway, pursuant to 10 CFR 51.23.

The ROD for Callaway's renewed license contains a summary of and reference to the NRC staff's evaluation of the environmental impacts of the continued storage of spent fuel in the spent fuel pool and in an ISFSI. The evaluation addresses the impacts of the continued storage of spent fuel on the following environmental issues: land use, socioeconomics, environmental justice, climate and air quality, geology and soils, surface-water quality and use, groundwater quality and use, terrestrial resources, aquatic ecology, special status species and habitats, historic and cultural resources, noise, aesthetics, waste management, transportation, and public and occupational health. The evaluation will be publically available and can be accessed in the NRC's document management system, Agencywide Documents Access Management System (ADAMS), at www.NRC.gov.

Regarding recommendation (2), the staff used the best available information provided by Ameren and other sources in its development of the final SEIS for the Callaway license renewal, in support of the conclusion summary in the SEIS. At this time, for license renewal, the staff has not received any additional information beyond that discussed in the SEIS in support of the

SEIS conclusion, regarding dry-cask storage at Callaway. Callaway dry-cask storage project information (e.g., date of project completion, projected loading date, and design capacity) is reviewed and addressed separately as part of current license activities. Current license activities are addressed by the reactor oversight program that continually evaluates Callaway operating conditions and physical infrastructure to ensure safe operations. In addition, the environmental protection plan contained in the Callaway license addresses environmental protection for current license activities. The project information will be made publicly available as part of the review, as appropriate.

By letter dated January 27, 2015, Ameren notified the NRC that it intends to use the Holtec International Underground Maximum Capacity (UMAX) Canister Storage System (docket no. 72-1040) for the Callaway ISFSI, pending NRC approval. Ameren provided that it plans to begin the initial loading campaign on or after April 27, 2015 (ML15027A623). The staff also noted from a HOLTEC International website posting dated December 10, 2014, that the 48 Cavity Enclosure Canisters, which are designed to contain the multi-purpose canisters (MPC-37) containing up to 37 PWR fuel assemblies each, are in place at the ISFSI and that the first loading campaign of six MPC-37 canisters is scheduled to begin in mid-2015. As noted above, for license renewal, the NRC staff addressed the cumulative environmental impacts of the construction and operation of an ISFSI in Sections 4.12.4, 4.12.5, 4.12.6, and 4.12.7 of the Callaway SEIS.

Regarding recommendation (3), climate change adaptation of a facility is considered outside the scope of the NRC's license renewal environmental review and was not specifically evaluated in the development of the Callaway SEIS. All currently operating nuclear power plants are located in consideration of site-specific environmental conditions. This siting analysis included consideration of meteorological and hydrologic siting criteria set forth in 10 CFR 100, as applicable. Callaway was designed and constructed in accordance with 10 CFR Part 50, Appendix A, General Design Criteria. These regulations require that plant structures, systems, and components important to safety be designed to withstand the effects of natural phenomena, such as flooding, without loss of capability to perform safety functions. Furthermore, plants are required to operate within NRC-issued operating license technical specifications which ensure that plants operate safely at all times, including coping with natural phenomena hazards. Any proposed change in operating conditions contrary to operating license specifications requires the NRC to conduct safety reviews of the proposed change prior to allowing the licensee to make that change. Additionally, the NRC evaluates nuclear power plant operating conditions and physical infrastructure to ensure continued safe operations through its reactor oversight program.

If new information becomes available, the NRC evaluates the new information to determine if any changes are needed at existing plants or to its regulations. This is a separate and distinct process from NRC's license renewal environmental reviews that are conducted in accordance with NEPA.

As part of the NRC's lessons-learned activities resulting from the March 2011 earthquake and tsunami in Japan, the NRC issued orders under 10 CFR 50.54 requesting licensees in part to conduct flooding reevaluations at existing nuclear power plants (see ADAMS No. ML12053A340). Ameren provided its initial response with its Flooding Hazard Revaluation Report to the NRC on March 8, 2013, (ML13071A315 and ML13071A316), which the NRC staff is still reviewing. The NRC will take action based on the review to ensure Callaway continues to operate safely. When complete, the NRC staff's evaluation will be made publicly available in ADAMS.

In your December 15, 2014, letter, EPA Region7 requested a copy of the ROD. Enclosed with this letter is a copy of the signed ROD.

Thank you for your comments. If further information is required, please contact the NRC environmental project manager, Tam Tran, at 301-415-3617 or by e-mail at tam.tran@nrc.gov.

Sincerely,

/RA/

Brian D. Wittick, Chief
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Dockets No. 50-483

Enclosure: ROD (ML14302a238)

cc: Listserv

Thank you for your comments. If further information is required, please contact the NRC environmental project manager, Tam Tran, at 301-415-3617 or by e-mail at tam.tran@nrc.gov.

Sincerely,

/RA/

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Enclosure: ROD (ML14302a238)

cc: Listserv

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Memorandum from B. Wittick dated March 26, 2015

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