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Sent: Friday, July 8, 2022 5:43 PM
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Cc: Dixon-Herrity, Jennifer; Chawla, Mahesh; Galvin, Dennis; Krepel, Scott; Lukes, Robert; Cusumano, Vic; Lehning, John; Sallman, Ahsan; Bhatt, Santosh; Haider, Syed; Woodyatt, Diana; Grover, Ravi; Peabody, Charley; Green, Brian; Keim, Andrea
Subject: Callaway Plant, Unit No. 1 - DRAFT Acceptance Review (Unacceptable for Review with Opportunity to Supplement) for Framatome Fuel Transition LAR and Exemption - EPIDs L-2022-LLA-0083 and L-2022-LLE-0019)

By letter dated June 2, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22153A174), Ameren Missouri (the licensee) submitted a license amendment request (LAR) and an exemption for Callaway Plant, Unit 1 (Callaway). The proposed amendment would revise the technical specifications (TSs) to allow the use of Framatome GAIA fuel at Callaway. Additionally, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.12, "Specific exemptions," the licensee requested an exemption from the provisions of 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," and Appendix K to 10 CFR 50, "ECCS [Emergency Core Cooling System] Evaluation Models," to allow the use of M5® fuel rod cladding in future core reload applications. The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this LAR and the exemption. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," an application for an amendment to a license (including the TSs) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34, "Contents of applications; technical information," of 10 CFR Part 50 addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed your application and concluded that the following **draft** information is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements for the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that the licensee supplement the application to address the following **draft** information requested by a later mutually agreed date (probably during the clarification call). This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the later mutually agreed date, the application will not be accepted for review pursuant to 10 CFR 2.101, "Filing of application," and the NRC will cease its activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

Information Insufficiencies (Draft):

1. Enclosure 1 of the licensee's letter identifies that the results of the control rod ejection event analysis will be available for review by the NRC staff but does not identify a timeline for availability. More detailed information concerning the schedule for providing this analysis appears necessary to support a determination of the staff's review timeline.
2. In general, the limitations and conditions, established by NRC staff, for each technical report associated with GAIA fuel, and requested by the licensee to be added to their licensing basis, are not dispositioned or addressed.
3. The licensee proposes a unique TS structure, which includes parallel sets of TS requirements for TS 3.2.1 (heat flux hot channel factor), 3.2.2 (nuclear enthalpy rise hot channel factor), and 3.2.3 (axial flux difference), with one set of requirements based on Westinghouse fuel and methods and the other based on those of Framatome. While the licensee would allow both fuel types to be present in limiting locations for several cycles, only one set of these TS requirements would apply for each cycle. Framatome has performed confirmatory analysis for its fuel, and the two sets of parallel TS operating limits would be similar. However, differences remain, such as with respect to TS required actions and surveillances. The basis for selecting one or the other of the parallel sets of TS requirements as governing for a given cycle is not clear and does not necessarily appear to be associated with which type of fuel has the limiting operating margin. The application does not appear to include sufficient information justifying why the TS requirements for the fuel type considered to "govern COLR development" adequately protect the other fuel type, which could be more limiting with respect to operating margin.
4. Enclosure 1, Attachment 12 (ANP-3969P) identifies that evaluation of the inadvertent loading and operation of a fuel assembly in an improper position event will be provided by the licensee. However, the NRC staff could not locate the analysis or disposition of this event in the licensee's submittal. This information should be provided, and the licensee should clarify the expected schedule to support a determination of the staff's review timeline.

Please let me know whether you need any clarification call with the NRC staff by 7/12/22, to discuss the requested supplemental information. Official letter will follow later.

If you have any questions, please contact me.

Siva P. Lingam

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