

NRR-PMDAPEm Resource

From: Klos, John
Sent: Tuesday, August 11, 2015 1:28 PM
To: 'Telwood@ameren.com'
Cc: 'SMaglio@ameren.com'; Klos, John; Johnson, Don; Hoffman, Raymond
Subject: Second round Requests for Additional Information: Callaway Amendment upgrade
Emergency Action Level scheme adopt NRC-endorsed NEI 99-01, Revision 6

Importance: High

Mr. Elwood,

By letter dated October 2, 2014, Agencywide Documents and Access and Management System (ADAMS) Accession Number ML14275A435 Ameren Missouri submitted a license amendment request for Callaway Unit 1 to upgrade the Emergency Action Level scheme by adopting NRC-endorsed Nuclear Energy Institute (NEI) 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors." Additional supplemental letters dated July 6, 2015 and July 16, 2015, ADAMS Accession No. ML15187A379 and ML15197A251, respectively, have also been submitted to support this license amendment

The Nuclear Regulatory Commission (NRC) staff has been reviewing the submittals and has determined that requests for additional information (RAIs) are needed to complete its review. The draft questions were sent via electronic transmission on August 4, 2015 to Mr. Tom Elwood. A clarification teleconference was held on August 6, 2015 and determined that these questions are necessary for the NRC staff to complete its technical review and make a regulatory finding regarding this license amendment. Additionally, it was agreed that a response would be submitted within 21 calendar days from the date of this email which is Tuesday Sept 1, 2015.

If you have any questions, please contact John Klos per the contact information below.

The RAIs are as follows;

SUPPLEMENTAL REQUESTS FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST

EMERGENCY ACTION LEVEL SCHEME CHANGE

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

By letter dated October 2, 2014, as supplemented by letters dated July 6, 2015 and July 16, 2015, Union Electric Company (dba Ameren Missouri) requested approval for an emergency action level (EAL) scheme change for the Callaway Plant (CP), Unit 1, Agencywide Documents Access and Management System (ADAMS) Package Accession No.s ML14275A435, ML15187A379, and ML15197A251, respectively. Ameren Missouri proposes to revise their current Emergency Action Level (EAL) scheme from one based upon Nuclear Energy Institute (NEI) 99-01, Revision 5, "Methodology for Development of Emergency Action Levels," to one based upon NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors."

The following requests for additional information (RAIs), in reference to Attachment 3, "Emergency Action Level Technical Bases" (Draft D), of the submittal dated July 16, 2015 are needed for NRC staff to continue the review consistent with the regulatory basis of 10 CFR 50 Appendix E, Section IV.B.2.

Supplemental RAI-CP-14

NEI 99-01, Revision 6, EAL AA3 Initiating Condition (IC) states, in Section 6:

Radiation levels that impede access to equipment necessary for normal plant operations, cooldown or shutdown.

The basis for EAL AA3 further states that "This IC addresses elevated radiation levels in certain plant rooms/areas sufficient to preclude or impede personnel from performing actions necessary to maintain normal plant operation, or to perform a normal plant cooldown and shutdown. As such, it represents an actual or potential substantial degradation of the level of safety of the plant."

NEI 99-01, Revision 6, EAL HA5, in Section 10, states equivalent guidance for a gaseous release that impedes access to equipment necessary for normal plant operations, cooldown or shutdown.

The licensee's previous response to RAI-CP-14 only addresses the actions needed to perform a plant shutdown, not the actions to initiate shutdown cooling.

The following questions are intended to address access to equipment needed to enter shutdown cooling:

- a. Please verify that all required manipulations to enter shutdown cooling can be performed from the Main Control Room or revise accordingly.
- b. Please verify that no local breaker operations (e.g., accumulator isolation valves or shutdown cooling valves) are required for initiation of shutdown cooling or revise accordingly.

Supplemental RAI-CP-18

The licensee states the following EAL wording to address EAL CA1.1:

Loss of RCS inventory as indicated by Reactor Vessel level < bottom of RCS hot leg ID (RVLIS Pumps Off < 73% or BBLI-53 A/B at 0 inches)

The EAL wording indicates that the EAL condition is based on a level that is < the bottom of the hot leg ID; whereas the Callaway Basis provides that BBLI-53A/B cannot sense level changes in the Reactor Vessel below the elevation of the RCS loop hot leg penetration. Therefore, it is unclear to staff how the RVLIS and BBLI-53A/B can be used to determine a level that is less than the bottom of the RCS hot leg ID.

Please provide the following:

- a. If the proposed EAL is intended to use a setpoint that is different than that provided by approved guidance, then please provide justification for that change and modify the EAL wording to reflect that change.
- b. If the proposed EAL is intended to use different levels based on instrumentation availability, then please clearly indicate when each level indication should be used and modify the EAL wording to clearly reflect when the specific instrumentation would be used. (Note: BBLI-53 A/B usage would also require EAL wording changes to clearly identify that the condition is not < the bottom of RCS hot leg ID.)

Supplemental RAI-CP-23

The NEI 99-01, Revision 6, developer notes states that:

The EAL and/or Basis section may specify use of a non-safety-related power source provided that operation of this source is recognized in AOPs and EOPs, or beyond design basis accident response

guidelines (e.g., FLEX support guidelines). Such power sources should generally meet the “Alternate ac source” definition provided in 10 CFR 50.2.

However, EAL schemes must also support timely and consistent assessments. As such, the staff’s review verifies that the licensee provided basis section does not introduce wording that could potentially delay or potentially alter EAL assessments. For EALs CU2.1, CA2.1, SU1.1, SA1.1, SS1.1, SG1.1, and SG1.2, AC power sources are specifically provided by Table C-3/S-1. The Callaway Basis provides that “credit can be taken” for additional sources of power “if they are capable of carrying” an emergency bus. These “additional” sources of power are not clearly indicated on Table C-3. Additionally, the Basis discusses “future actions” that the licensee anticipates to take in accordance with the FLEX requirements.

- a. Please revise Table C-3 / S-1 and/or modify the basis discussion to ensure the EAL wording associated with EALs CU2.1, CA2.1, SU1.1, and SA1.1 is consistent with the applicable Basis document discussions and the current plant configuration (reflects current AC power capabilities).
- b. Please consider removing Table S-1, “AC Power Sources,” from EALs SS1.1, SG1.1, and SG1.2. If Table S-1 is not removed, please revise Table S-1 to ensure that an inappropriate classification would not be made when a bus is capable of supplying the required electric power within the designated time.

John Klos

DORL Callaway Project Manager

U.S. NRC, Office of Nuclear Reactor Regulation,

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