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January 14, 2014

ULNRC-06062

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Order No. EA-12-049

Ladies and Gentlemen:

**DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
REQUEST FOR RELAXATION FROM NRC ORDER EA-12-049, "ORDER
MODIFYING LICENSES WITH REGARD TO REQUIREMENTS FOR MITIGATION
STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS"**

- References: 1. Letter dated March 12, 2012 from E. J. Leeds and M. R. Johnson, USNRC, to Adam C. Heflin, Callaway Plant, Union Electric Company, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" (ADAMS Accession Number ML12054A736)
2. ULNRC-05962, "Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses With Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated February 28, 2013 (ADAMS Accession Number ML13063A459)

This letter transmits a request for relaxation of the requirements contained in NRC Order EA-12-049. On March 12, 2012, the U. S. Nuclear Regulatory Commission (NRC) issued an Order (Reference 1) to Union Electric Company (Ameren Missouri) for Callaway Plant. Reference 1 was immediately effective and directs Ameren Missouri to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event. As described in the Overall Integrated Plan for Callaway Plant (Reference 2), one requirement of the mitigation strategies is dependent upon installation of Westinghouse low leakage Reactor Coolant Pump (RCP) shutdown seals (SHIELD® seals) established in accordance with NRC Order EA-12-049 (Reference 1).

Ameren Missouri recently installed the second generation (Gen II) SHIELD seals at Callaway Plant this past spring during refueling outage 19. These seals were to support implementation of our FLEX strategies for the plant by the fall 2014 refueling outage (refuel 20). However, recent post-operational testing of the SHIELD seals at another plant has resulted in the need to enhance the SHIELD design. An extension of one additional refueling cycle to the spring 2016 refueling outage is therefore requested to install the next generation seal. This would allow time for a new SHIELD design to be completed and obtain NRC acceptance of the next generation SHIELD design.

Section IV of NRC Order EA-12-049 (Reference 1) states that licensees proposing to deviate from requirements contained in NRC Order EA-12-049 may request that the Director, Office of Nuclear Reactor Regulation, relax those requirements. Therefore, in accordance with Section IV of NRC Order EA-12-049, Ameren Missouri is requesting that the Director, Office of Nuclear Reactor Regulation, relax the requirement for completion of full implementation as prescribed in Section IV.A.2 of NRC Order EA-12-049 and as described in the attachment to this letter.

Ameren Missouri considers that, upon approval by the NRC, the alternative full implementation dates regarding NRC Order EA-12-049 proposed in the attachment will constitute a condition of the NRC Order EA-12-049 for Callaway Plant. Therefore, there are no new regulatory commitments contained in this letter.

Should you have any questions concerning the content of this letter, please contact Scott Maglio, Regulatory Affairs Manager, at 573-676-8719.

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,

Executed on: _____

1/14/2014



Cleveland Reasoner
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Enclosure

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REQUEST FOR RELAXATION OF NRC ORDER EA-12-049 REQUIREMENT IV.A.2 FOR CALLAWAY PLANT

Relaxation Request

Pursuant to the procedure specified in Section IV of Nuclear Regulatory Commission (NRC) Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" (Reference 1), Ameren Missouri hereby submits a request for schedule relaxation from the Order requirements for completion of full implementation for Callaway Plant either no later than two (2) refueling cycles after submittal of the Overall Integrated Plan, as required in Condition C.1.a of the Order, or December 31, 2016, whichever comes first.

Order Requirement from Which Relaxation is Requested

NRC Order EA-12-049, Section IV.A.2 requires completion of full implementation of the Order requirements either no later than two (2) refueling cycles after submittal of the Overall Integrated Plan, as required by Condition C.1.a, or December 31, 2016, whichever comes first. In accordance with the requirements of the Order, Ameren Missouri submitted the Overall Integrated Plan for Callaway Plant (Reference 2) on February 28, 2013. The Overall Integrated Plan milestone schedule identified the completion dates for full implementation of NRC Order EA-12-049 as completion of the fall 2014 refueling outage for Callaway Plant.

NRC Order EA-12-049 requires the development, implementation, and maintenance of guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event (BDBEE). As described in the Overall Integrated Plan for Callaway Plant, these mitigation strategies are dependent upon installation of Westinghouse low leakage Reactor Coolant Pump (RCP) shutdown seals (SHIELD® seals). Ameren Missouri recently installed the second generation (Gen II) SHIELD seals at Callaway Plant this past spring during refueling outage 19. Recent post-operational testing of the SHIELD seals at another plant has resulted in the need to enhance the SHIELD design. The new seals will ensure the safety functions of containment integrity (during an extended loss of alternating current power or ELAP), and core cooling (RCS inventory and level) are maintained for beyond-design-basis external events (BDBEEs).

Justification for Relaxation Request

The SHIELD seals provide additional safety margin during a BDBEE by serving as a passive means of protecting the reactor. The seals reduce the risk to the plant (Core Damage Frequency) by limiting the loss of reactor coolant system (RCS) water inventory during the event.

The implications of the failure of Westinghouse SHIELD shutdown seals for reactor coolant pumps are currently being assessed. Resolution of issues will require additional analytical work, and a FLEX white paper and Topical Report are being developed by Westinghouse to provide the NRC with appropriate data to have higher confidence in the next generation SHIELD design. The FLEX white paper and Topical Report are expected to be issued to the NRC in February 2014. Upon receipt of these documents, NRC review and acceptance of the next generation seals would be required.

Based on this timeline, full implementation of the mitigation strategies in accordance with NRC Order EA-12-049 would not be completed by the Order requirement date, since NRC acceptance of the Topical Report is essential to the full implementation of mitigation strategies required by the Order. The current required implementation date is completion of the fall 2014 refueling outage. An extension of one additional refueling cycle is requested, which would move the implementation date to completion of the spring 2016 refueling outage, which is still within the maximum allowed timeframe of December 2016. The extension would provide additional time for Westinghouse to fully design, test, qualify, and obtain NRC acceptance on the new generation seals, and for Ameren Missouri to safely plan, schedule, and install the next generation SHIELD seals at the Callaway Plant.

Compliance with the Order requirement date (of fall 2014 refueling outage) would require Ameren Missouri to revise the Callaway Plant strategies for core cooling (RCS inventory control) from 10 gpm to 40 gpm boration/makeup. This would require additional analytical work and has a high potential for changing modifications that are currently planned for refueling outage 20 (fall 2014). Relaxation provides additional time to resolve industry issues and fully design and safely implement the next generation SHIELD seals. Additionally, the new seals will provide added safety margin during a BDBEE.

Conclusion

As described above, compliance with the current NRC Order EA-12-049 schedule requirement for full completion of implementation of mitigation strategies would result in hardship or unusual difficulty without a compensating increase in the level of safety. Therefore, in accordance with the provisions of Section IV of the Order, Ameren Missouri requests relaxation of the requirement described in Section IV.A.2, as explained above.

References

1. NRC Order EA-12-049, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012
2. ULNRC-05962, "Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses With Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated February 28, 2013