December 10, 2019

ULNRC-06554

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

10 CFR 50.54(f)

Ladies and Gentlemen:

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
RENEWED FACILITY OPERATING LICENSE NPF-30
FOLLOW-UP ACTION FOR RESPONSE TO NRC BULLETIN 2012-01:
EXTENSION OF IMPLEMENTATION PERIOD FOR ACTIVATING OPEN PHASE ISOLATION SYSTEM INSTALLED AT CALLAWAY PLANT

References: (1) Ameren Missouri letter ULNRC-05926, "90-Day Response to NRC Bulletin 2012-01, 'Design Vulnerability in Electric Power System,'" dated October 24, 2012

(2) NRC letter dated December 20, 2013, "Request for Additional Information Regarding Response to Bulletin 2012-01, "'Design Vulnerability in Electric Power System'"

(3) Ameren Missouri letter ULNRC-06075, "Response to Request for Additional Information Regarding Response to Bulletin 2012-01, 'Design vulnerability in Electric Power System,'" dated January 30, 2014

(4) NEI letter to Mr. Ho Nieh, Jr., Director, Office of Nuclear Reactor Regulation, U.S. NRC, dated September 20, 2018

This letter is submitted in order to inform the NRC of a change in the implementation schedule for Ameren Missouri's response to NRC Bulletin 2012-01, "Design Vulnerability in Electric Power System." Following Ameren Missouri's initial response to NRC Bulletin 2012-01, as submitted per Reference 1, a follow-up letter (Reference 3) was submitted in response to a Request for Additional Information (RAI) received from the NRC per Reference 2. The information provided in the follow-up letter included the status and schedule for completion of a plant modification to resolve the issue

concerning the potential effects of an open phase in the offsite power sources or source connections to the plant.

In describing the schedule that would be followed for development and implementation of a modification at the Callaway Plant, the letter acknowledged Ameren Missouri's alignment with the generic schedule provided in the Industry OPC Initiative developed by NEI in 2013. Per that schedule, plant modifications for installation of an Open Phase Isolation System (OPIS) at each applicable plant were to be implemented by December 31, 2018. As Ameren Missouri indicated in the Reference 3 letter, "It is our intention to meet the milestones of this schedule; however, deviations may be required to accommodate outage schedules, software and hardware availability, manufacturer's delivery capabilities, licensing delays, etc. Any deviation from the Industry OPC Initiative schedule will be documented through the deviation/exemption process addressed in the NEI OPC Guidance Document."

The NEI OPC initiative for the industry underwent some changes from the initially developed version, and Revision 1 was formally approved by the industry in 2015. As plants subsequently began to complete their OPIS modifications, the approach taken was to initially maintain the installed systems in a monitoring/alarm mode only in order to monitor performance prior to activating the trip capability of the systems. In its letter dated September 20, 2018 (Reference 4), NEI informed the NRC that Revision 2 of the OPC Initiative was being issued. It was noted in the letter that revision of the originally described schedule was needed in order to provide adequate time for implementation of the necessary modifications to the plants and to accommodate an adequate monitoring time afterwards. The following was noted in the letter:

> "… Many plants have completed installation of their Open Phase Isolation System (OPIS) with other plants scheduled to complete during 2018. Monitoring data to date indicates that installed OPISs would have experienced spurious actuations if the automatic trip functions had been activated. Some spurious actuation causes are unknown and resolutions are still being pursued. Additionally, due to the limited monitoring period remaining before December 31, 2018, there is some uncertainty that all existing and potentially new plant/grid configurations can be reliable handled by the various OPIS designs without including spurious actuations. As a result, the industry has recognized the need for an extended monitoring period necessitating a second revision the industry initiative."

As specified in the letter, a 24-month monitoring period was deemed to be sufficient before fully implementing the plant OPIS modifications (i.e., with their automatic trip capability enabled).

At Callaway, installation of the OPIS was completed in late 2017. The system was installed with the capability to effect automatic isolation of an offsite source experiencing an open-phase condition, but like most plants, the automatic trip capability was not enabled in order to allow for a monitoring period with the OPIS installed in an alarm-only mode. Following a favorable monitoring period, the intent was for the installed OPIS to be fully implemented with its as-designed automatic trip capability enabled, in accordance with the NEI OPC Initiative. This two-step approach to implementing the modification required the licensing activities for the OPIS to also be completed in two steps, particularly in regard to 10 CFR 50.59 review of the modification. The licensing activity for

supporting the enabling and full implementation of the OPIS at Callaway, including performance of a 10 CFR 50.59 Evaluation, was just recently completed.

The 10 CFR 50.59 Evaluation recently completed, reviewed and approved by Callaway personnel was supported by the fact that the OPIS for Callaway employs both a non-safety relay package in the switchyard with alarm capability and a package of safety-related (Class 1E) relays installed in the feeder breaker trip circuits for the plant 4.16-kV safety buses, providing alarm and automatic trip capability for effecting offsite source isolation. The latter utilizes 2-out-of-2 coincidence logic to minimize the potential for inadvertent trips. It may be noted that during the 24-month monitoring period now completed for these relays, no spurious alarms from the Class 1E relays were experienced.

Having just completed the 24-month monitoring period and the 10 CFR 50.59 Evaluation for enabling the automatic trip capability of the OPIS at Callaway, release of the modification for operation must now be planned. With the plant currently in operation in the middle of an operating cycle, the work management process must be followed, which includes planning and selecting appropriate timeframes for activating the OPIS for each train. Four work packages must be implemented, i.e., one for each feeder breaker trip circuit (as there are two feeder breakers, one normal and one alternate, for each of the two 4.16-kV Class 1E safety buses at Callaway). In order to allow sufficient time to complete the work management process (as managed pursuant to 10 CFR 50.65(a)(4)), including release of the OPIS modification for operation, Ameren Missouri is extending the current implementation schedule, i.e., from the current end date of December 31, 2019 (as established in accordance with the industry/generic schedule of Reference 4) to a new end date of May 15, 2020.

This letter contains no new regulatory commitments.

If you have any questions about this submittal, please contact Roger C. Wink, Manager – Regulatory Affairs at (573) 310-7025.

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

Sincerely,

Fred Bianco
Senior Director, Nuclear Operations

Executed on: Dec. 10, 2019

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