



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 17, 2022

Mr. Fadi Diya
Senior Vice President and
Chief Nuclear Officer
Ameren Missouri
Callaway Energy Center
8315 County Road 459
Steedman, MO 65077

SUBJECT: CALLAWAY PLANT, UNIT NO. 1 – REGULATORY AUDIT SUMMARY
REGARDING LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL
SPECIFICATIONS TO ADOPT TSTF-505, REVISION 2 AND TSTF-439,
REVISION 2 (EPID L-2021-LLA-0197)

Dear Mr. Diya:

By letter dated October 21, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21294A393), as supplemented by letters dated November 24, 2021 (ML21328A182), and June 30, 2022 (ML22181B129), Union Electric Company, dba Ameren Missouri (the licensee), submitted a license amendment request for Callaway Plant, Unit No. 1 (Callaway). The proposed amendment would modify the Callaway Technical Specifications (TSs) to implement risk-informed completion times and the Risk-Informed Completion Time Program in accordance with Technical Specifications Task Force (TSTF) Traveler TSTF-505, "Provide Risk-Informed Extended Completion Times – RITSTF [Risk-Informed TSTF] Initiative 4b," Revision 2.

In support of the adoption of TSTF-505, the licensee also would adopt TSTF-439, Revision 2, "Eliminate Second Completion Times Limiting Time from Discovery of Failure to Meet an LCO [Limiting Condition for Operation]," which involves the elimination of second completion times currently specified in the TSs. In addition, the proposed amendment would remove obsolete one-time completion times contained in the Callaway TSs.

To support its review of the license amendment request, the U.S. Nuclear Regulatory Commission (NRC) staff conducted a virtual regulatory audit from March 22, 2022, through March 25, 2022. During the regulatory audit, the NRC staff reviewed documents and held discussions with members of Ameren Missouri and its contractors. The regulatory audit summary report is enclosed with this letter.

If you have any questions, please contact me at 301-415-8371 or via email at Mahesh.Chawla@nrc.gov.

Sincerely,

/RA/

Mahesh L. Chawla, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure:
Audit Summary

cc: Listserv

OFFICE OF NUCLEAR REACTOR REGULATION
REGULATORY AUDIT SUMMARY
IN SUPPORT OF LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL
SPECIFICATIONS TO ADOPT TSTF-505, REVISION 2 AND TSTF-439, REVISION 2
UNION ELECTRIC COMPANY
CALLAWAY PLANT, UNIT NO. 1
DOCKET NO. 50-483

1.0 BACKGROUND

By letter dated October 21, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21294A393), as supplemented by letters dated November 24, 2021 (ML21328A182), and June 30, 2022 (ML22181B129), Union Electric Company, dba Ameren Missouri (the licensee), submitted a license amendment request (LAR) for Callaway Plant, Unit No. 1 (Callaway). The proposed amendment would modify the Callaway Technical Specifications (TSs) to implement risk-informed completion times and the Risk-Informed Completion Time Program in accordance with Technical Specifications Task Force (TSTF) Traveler TSTF-505, "Provide Risk-Informed Extended Completion Times – RITSTF [Risk-Informed TSTF] Initiative 4b," Revision 2.

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To support its review of the LAR, the U.S. Nuclear Regulatory Commission (NRC) staff conducted a virtual regulatory audit from March 22, 2022, through March 24, 2022. During the regulatory audit, the NRC staff reviewed documents and held discussions with members of Ameren Missouri and its contractors. The purpose of the audit was to gain an understanding of the information needed to support the NRC staff's licensing decision regarding the LAR and to develop requests for additional information (RAIs).

The information submitted in support of the LAR is under final review in accordance with Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-101, Revision 6, "License Amendment Review Procedures" (ML19248C539). The regulatory audit is a planned license or regulation-related activity that includes the examination and evaluation of primarily non-docketed information. The regulatory audit is conducted with the intent to gain understanding, to verify information, and/or to identify information that will require docketing to support the basis of a licensing or regulatory decision. Performing a regulatory audit of the licensee's information is expected to assist the NRC staff in efficiently conducting its review or gain insights on the licensee's processes or procedures. Information that the NRC staff relies upon to make the safety determination must be submitted on the docket.

Enclosure

However, the NRC staff may review supporting information retained as records under Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.71, "Maintenance of records, making of reports," and/or 10 CFR 54.37, "Additional records and recordkeeping requirements," which, although not required to be submitted as part of the licensing action, would help the NRC staff better understand the licensee's submitted information.

2.0 AUDIT ACTIVITIES AND OBSERVATIONS

2.1 Desk and Virtual Audit

The desk audit was conducted by the NRC staff consistent with the regulatory audit plan dated February 18, 2022 (ML22048A002). The NRC staff provided information needs in the audit plan, as supplemented. The NRC staff reviewed documents during the "desk-audit" phase that were responsive to the information needs and made available by the licensee in an electronic reading room.

The second phase of the audit was conducted virtually between the dates of March 22-24, 2022. Detailed discussions were held on various topics between the audit team members and the licensee, aided by information needs identified by the staff in the audit plan, as supplemented, along with the licensee's presentations and prepared responses to audit questions. A follow-up discussion was held on May 25, 2022, with the Callaway project manager, licensee staff, and NRR technical reviewers to discuss the collective status of audit questions. The NRC staff used the information gathered from the audit to determine whether additional information is warranted on the docket to support rendering of an NRC staff finding. The attachment to this audit report provides a list of the information that the NRC staff reviewed throughout the audit.

3.0 RESULTS OF THE AUDIT

The NRC staff did not make any regulatory decisions regarding the LAR during the audit. On May 25, 2022, during the virtual audit call, the licensee opted to provide a supplement to include the additional information the NRC staff identified. At the audit exit on March 24, 2022, the NRC staff reviewed the proposed resolution to the audit questions with the licensee and reached a consensus regarding the questions which were resolved and closed. The licensee agreed to provide the response to the remainder of the questions on the docket. The NRC staff communicated to the licensee that upon review of the supplement the staff would determine the need for an RAI. The licensee provided the supplement (ML22181B129) on June 30, 2022, to address the information needs.

Attachment:
Audit Information Reviewed

CALLAWAY TSTF 505 AUDIT INFORMATION REVIEWED

No. #	Branch-Request	Name of Document
1	Audit Plan Item	PRA-IE-UNCERT_APP5, "Disposition of Key Uncertainties: Risk Informed Completion Times (RITS 4b)," Revision 1, June 2021
2	Audit Plan Item	Callaway Plant Procedure PRA-ZZ-00001, "PRA [Probabilistic Risk Assessment] Model Updates and Maintenance," Revision 002
3	Audit Plan Item	Callaway Plant Procedure PRA-ZZ-00002, "Risk Monitoring Software Configuration Control," Revision 000
4	Audit Plan Item	CEC Procedure ODP-ZZ-00002, APP 2, "Risk Management Actions for Planned Risk Significant Activities," Revision 019
5	Audit Plan Item	CEC Procedure ODP-ZZ-00002, APP 3, "Risk Management Actions for Fire Risk Systems and Components," Revision 003
6	Audit Plan Item	Procedure APA-ZZ-00315, "Configuration Risk Management Program," Revision 015
7	Audit Plan Item	PRA-SY-CTMT, "At-Power Internal Events PRA (IEPRA), Containment Safeguards Systems Analysis Notebook, Revision 000
8	Audit Plan Item	PRA-SY-SA, At-Power IEPRA, Load Shedding & Emergency Load Sequencer, Engineered Safety Feature Actuation, and Reactor Protection Systems Analysis Notebook, Revision 001
9	Audit Plan Item	PRA-SY-AE, At-Power IEPRA, Main Feedwater System Analysis Notebook, Revision 000
10	Audit Plan Item	APA-ZZ-00315 APP A DRAFT
11	Audit Plan Item	APA-ZZ-00315 APP B DRAFT
12	Audit Plan Item	APA-ZZ-00315 APP C DRAFT
13	Audit Plan Item	APA-ZZ-00315 APP D DRAFT
14	Audit Plan Item	APA-ZZ-00315 APP E DRAFT
15	Audit Plan Item	APA-ZZ-00315 DRAFT
16	Audit Plan Item	8600-X-89233, Single Line Diagram On-Site Electrical Power Distribution System Rev. 57
17	Audit Plan Item	8618-X-94076, One Line Diagram Metering and Relaying 345-13, 8KB Safeguard Transformers PDSM-V22 and V24, Rev. 8
18	Audit Plan Item	E-21001, Main Single Line Diagram FSAR Figure 8.3-2 Sheet 1, Rev. 27
19	Audit Plan Item	E-21001 (Q), DC Main Single Line Diagram FSAR Rev. 16
20	Audit Plan Item	Risk-Informed Completion Time (RICT) Audit-Electrical Plant Presentation Revision 1

No. #	Branch-Request	Name of Document
21	NRR ¹ /DRA ² /APLA(C) ³	Licensee Response to APPLA(C) Question (Q)-02c – Motor Control Center (MCC) Frequently Ask Question (FAQ)14-0009
22	NRR/DRA/APLA(C)	Licensee Response to APPLA(C) Q-01 PRA Model Uncertainty Analysis Process
23	NRR/DRA/APLA(C)	Licensee Response to APPLA(C) Q-02d Disposition of Model Assumptions and Sources of Uncertainty 03222022
24	NRR/DRA/APLA(C)	Licensee Response to APPLA(C) Q-02g Disposition of Model Assumptions Uncert Flooding 03222022
25	NRR/DRA/APLA(C)	Licensee Response to APPLA(C) Q-02e Sensitivity 03222022
26	NRR/DRA/APLA	Licensee Response to APPLA Q-03, Modeling of Analog Instrumentation and Control (I&C) Systems
27	NRR/DRA/APLA	Licensee Response to APPLA Q-04, Modeling of Digital I&C Systems
28	NRR/DRA/APLA	Licensee Response to APPLA Q-05, Impact of Seasonal Variations
29	NRR/DRA/APLA	Licensee Response to APPLA Q-06, In-Scope LCOs [Limiting Conditions for Operation] and Corresponding PRA Modeling
30	NRR/DRA/APLA	Licensee Response to APPLA Q-07, Open Phase Condition
31	NRR/DRA/APLC	Licensee Response to APPLC Q-01, External Hazards
32	NRR/DSS ⁴ /STSB ⁵	Final Safety Analysis Report (FSAR) SP Table 15.0-6, Rev. OL-15
33		RICT LAR Audit Action Tracking 03222022
34		OTN-EA-00001-R041, Service Water System Administrative Correction
35	NRR/DRA/APLC	PRA-Seismic-Plant Response R001
36	NRR/DSS/STSB	TS AC 5.5.9 - Steam Generator Program
37	NRR/DRA	WCAP-16341-P-R0 Simplified Large Early Release Frequency (LERF)
38	NRR/DSS/SCPB ⁶	Licensee Response to SCPB Q-01
39	NRR/DSS/STSB	Licensee Response to STSB Q-03-final-GJP
40	NRR/DSS/STSB	Licensee Response to STSB Q-02 response
41	NRR/DSS/STSB	Licensee Response to STSB Q-03b and Q-03c response
42	NRR/DEX ⁷ /EEEB ⁸	Enclosure to ULNRC-06739, Table E.1-1 In Scope TS/LCO Conditions to Corresponding PRA Functions

¹ Office of Nuclear Reactor Regulation (NRR)

² Division of Risk Assessment (DRA)

³ Probabilistic Risk Assessment (PRA) Licensing Branch A (APLA)/Branch C (APLC)

⁴ Division of Safety Systems (DSS)

⁵ Technical Specifications Branch (STSB)

⁶ Containment and Plant Systems Branch (SCPB)

⁷ Division of Engineering and External Hazards (DEX)

⁸ Electrical Engineering Branch (EEEB)

No. #	Branch-Request	Name of Document
43	NRR/DRA/APLA	Licensee Response to Updated_APLA(C) Q-02b – Fire Assumed Failed Equipment
44	NRR/DRA/APLA	Licensee Response to Updated_APLA(C) Q-02c – MCC FAQ-0009
45	NRR/DRA	Licensee Response to Updated_APLC(C) Q-01 PRA Model Uncertainty Analysis Process
45	NRR/DRA	Licensee Response to Updated_APLA(C) Q-02 Disposition Model Assumptions and Sources of Uncertainty
46	NRR/DRA/APLC	Licensee Response to Updated_APLA(C) Q-02f Disposition of high winds Direct to LERF Model Assumptions
47	NRR/DRA/APLC	Licensee Response to Updated_APLA(C) Q-02g Disposition of Model Assumptions Uncert Flooding
48	NRR/DRA/APLC	Licensee Response to Updated_APLAC Q-02e Sensitivity
49	NRR/DRA/APLA ⁹	Licensee Response to Updated_APLA Q-04 Digital I&C Systems
50		Licensee Response to Updated_APLA Q-05 Impact of Seasonal Variations
51	NRR/DRA/APLC	Licensee Response to Updated_APLC Q-01 External Hazards
52	NRR/DSS/STSB(SNS B) ¹⁰	Licensee Response to Updated_STSB and SNSB Q-01 Revision 1

⁹ Electrical Instrumentation and Controls Branch (EICB)

¹⁰ Nuclear Systems Performance Branch (SNSB)

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REVISION 2 (EPID L-2021-LLA-0197) DATED

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OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DEX/EEEE/BC	NRR/DEX/EICB/BC
NAME	MChawla	PBlechman	WMorton	MWaters
DATE	9/20/2022	9/20/2022	10/11/2022	10/13/2022
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NAME	RPascarelli	SVasavada	BWittick	DWoodyatt
DATE	10/11/2022	9/21/2022	9/21/2022	9/21/2022
OFFICE	NRR/DSS/STSB/BC	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM	
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DATE	9/21/2022	10/17/2022	10/17/2022	

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