



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

September 25, 2023

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 – SAFETY EVALUATION FOR OPERATING
QUALITY ASSURANCE MANUAL, REVISION 36A (EPID L-2023-LLQ-0000)

Dear Mr. Diya:

By letter dated November 16, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22327A206), Union Electric Company, doing business as Ameren Missouri (the licensee), submitted to the U.S. Nuclear Regulatory Commission (NRC) for review, a revision to the Operating Quality Assurance Manual (OQAM) for Callaway Plant, Unit No. 1 (Callaway), in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54, "Conditions of licenses." The submittal contained four changes to the OQAM in which the licensee considered as no reductions in commitment to the OQAM in accordance with 10 CFR 50.54(a)(3) and 10 CFR 50.71(e).

By letter dated June 5, 2023 (ML23156A669), as supplemented by letter dated June 14, 2023 (ML23165A241), the licensee resubmitted one of the four changes to the OQAM, as stated above, as a reduction in commitment in accordance with 10 CFR 50.54(a)(4), which requires NRC approval. The NRC staff reviewed the licensee's proposed change to its OQAM and determined that additional information is required to complete its review. The NRC staff requested additional information by email, dated July 19, 2023 (ML23200A298). The licensee submitted its response, in the supplemented letter, dated August 17, 2023 (ML23292A538).

The NRC staff reviewed the licensee's proposed change to its OQAM, as documented in the enclosed safety evaluation, and finds that it will continue to comply with the criteria of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," and is therefore, acceptable.

F. Diya

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

Sincerely,

Jennifer L. Dixon-Herrity, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure:
Safety Evaluation

cc: Listserv



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

FOR APPROVAL REQUEST OF

OPERATING QUALITY ASSURANCE MANUAL, REVISION 36A

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT NO. 1

DOCKET NOS. 50-483 AND 72-1045

1.0 INTRODUCTION

By letter dated November 16, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22327A206), Union Electric Company, doing business as Ameren Missouri (the licensee), submitted to the U.S. Nuclear Regulatory Commission (NRC) for review, a revision to the Operating Quality Assurance Manual (QQAM) for Callaway Plant Unit No. 1 (Callaway) in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54, "Conditions of licenses." The submittal contained four changes to the QQAM in which the licensee considered as no reductions in commitment to the QQAM in accordance with 10 CFR 50.54(a)(3) and 10 CFR 50.71(e).

By letter dated June 5, 2023 (ML23156A669), as supplemented by letter dated June 14, 2023 (ML23165A241), the licensee resubmitted one of the four changes to the QQAM, as stated above, as a reduction in commitment in accordance with 10 CFR 50.54(a)(4), which requires NRC approval. Specifically, the licensee requested NRC review and approval to change the commitment of the education and experience requirements for radiation protection (RP) first line supervisors, technicians, and supplemental personnel from Regulatory Guide (RG) 1.8, "Qualification and Training of Personnel for Nuclear Power Plants," Revision 2, dated April 1987 (ML003739928), to Revision 4, dated June 2019 (ML19101A395).

The NRC staff reviewed the licensee's proposed changes to its QQAM and determined that additional information is required to complete its review. The NRC staff requested additional information by email, dated July 19, 2023 (ML23200A298). The licensee submitted its response by letter dated August 17, 2023 (ML23229A538).

2.0 REGULATORY BASIS

The regulatory requirements for nuclear power plant quality assurance (QA) programs are set forth in Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization

Facilities”; 10 CFR 50.34(b)(6)(ii); and 10 CFR 50.54(a). In addition, 10 CFR 50.120, provides regulatory requirements for training and qualification of nuclear power plant personnel.

Appendix B to 10 CFR Part 50 establishes the requirements for the design, fabrication, construction, and testing of structures, systems, and components (SSCs). Criterion II, “Quality Assurance Program,” of Appendix B to 10 CFR Part 50, establishes requirements for indoctrination and training of personnel. Criterion II states, in part, that, “The program shall provide for indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained.”

The regulation in 10 CFR 50.34(b)(6)(ii) requires the final safety analysis report (FSAR) for a nuclear power plant to include information on the managerial and administrative controls that would ensure safe operation. The information on the controls shall also include a discussion on how the applicable requirements of Appendix B to 10 CFR Part 50 will be satisfied.

The regulation in 10 CFR 50.54(a) requires each nuclear power plant licensee subject to the requirements of Appendix B to 10 CFR Part 50 to implement a QA program. Section 50.54(a)(4) of 10 CFR sets forth the NRC’s regulatory requirements regarding changes to a QA program description that are considered a reduction in commitment. The regulations in 10 CFR 50.54(4) states, in part, that “Changes to the quality assurance program description that do reduce the [licensee’s] commitments must be submitted to the NRC and receive NRC approval prior to implementation....” The regulations further state, in part, that this includes “[c]hanges made to the quality assurance program description as presented in the Safety Analysis Report or in a topical report that must be submitted as specified in [10 CFR] 50.4.”

The regulations in 10 CFR 50.120 require each nuclear power plant licensee establish, implement, and maintain a training and qualification program that is derived from a systems approach to training as defined in 10 CFR 55.4, and must provide for the training and qualification of various categories of nuclear power plant personnel.

3.0 TECHNICAL EVALUATION

In its letters dated June 5 and 14, 2023, the licensee submitted a change to its OQAM for Callaway, as a reduction in commitment in accordance with 10 CFR Part 50.54(a)(4), which requires NRC approval. Specifically, the licensee requested NRC approval to change the commitment of the education and experience requirements for RP first line supervisors, technicians, and supplemental personnel from RG 1.8, Revision 2 to Revision 4. The licensee submitted markups to section 2 and appendix A of the OQAM, and a markup to the Callaway FSAR Site Addendum (SA), sections 13.1.3.1, 13.1.3.1.18, and 13.1.3.1.19 (ML21194A304).

The current education and experience requirements for RP first line supervisors, technicians, and supplemental personnel are from RG 1.8, Revision 2, dated April 1987 (ML003739928), which endorses the American National Standards Institute/American Nuclear Society (ANSI/ANS) 3.1-1978 standard, “Selection and Training of Nuclear Power Plant Personnel.” The current requirements for RP supervisor and RP technician in the Callaway FSAR SA, sections 13.1.3.1.18 and 13.1.3.1.19 state:

Radiation Protection Supervisor

1. A minimum of four years of experience in applied radiation protection activities.
2. High school education or equivalent.

Radiation Protection Technician

1. Three years of working experience in radiation protection, of which one year should be related technical training.
2. High school education or equivalent.

The proposed education and experience requirements for these positions are from RG 1.8, Revision 4, which endorses the ANSI/ANS-3.1-2014 standard, "Section, Qualification, and Training of Personnel for Nuclear Power Plants." The licensee's proposed changes to the RP supervisor and RP technician in the Callaway FSAR SA section 13.1.3.1.18 and 13.1.3.1.19, states:

Radiation Protection Supervisor

1. A minimum of three years of experience in applied radiation protection activities, of which two years shall be nuclear power plant experience and 0.25 year on-site experience.
2. High school diploma or general education development (GED) test.

Radiation Protection Technician

1. Two years of working experience in radiation protection, of which one year shall be nuclear power plant experience.
2. High school diploma or general education development (GED) test.

It is noted that in accordance with ANSI/ANS 3.1-2014, a GED test is considered an acceptable alternative to a high school diploma.

The licensee also clarified that the proposed change is not applicable to the position of RP manager, which shall continue to meet the requirements of RG 1.8, Revision 1, "Personnel Selection and Training," dated September 1975 (ML13038A100) as clarified by NRC letter, HPPOS-020, "Clarification of Reg. Guide 1.8 on Qualification of Radiation Protection Manager," dated October 1, 1977 (ML103420211).

In addition, the licensee provided a markup to the proposed OQAM appendix A, which states:

Regulatory Guide 1.8 Rev. 4, issued June 2019, which endorses ANSI/ANS 3.1-2014, applies to equivalent positions within the Radiation Protection organization except for the Radiation Protection Manager.

When supplemental contract Radiation Protection personnel are used to perform safety-related activities, these personnel shall meet the education and

experience requirements of ANSI/ANS-3.1-2014 for equivalent positions or specified education and experience requirements for non-equivalent positions.

In an email dated July 19, 2023, the NRC staff issued a request for additional information (RAI) to the licensee to clarify the statement “specified education and experience requirements for non-equivalent positions” in the proposed OQAM appendix A markup.

In a letter dated August 17, 2023, the licensee submitted its response to the RAI. The licensee stated that the difference between equivalent positions and non-equivalent positions as follow:

In general, some of many of the various positions in different areas of the plant organization, including those within Radiation Protection, are those that are clearly described or clearly relatable to the positions described in the applicable ANSI standard. Such positions are considered “equivalent” positions. Thus, personnel fulfilling “equivalent” positions are subject to the requirements of the applicable standard (with exceptions noted in some cases). For some areas, however, personnel may be fulfilling “non-equivalent” positions, i.e., positions not described in a potentially applicable standard or not seen as equivalent to what is described in the standard (including those positions that do not involve the performance of activities described in the standard). Such positions would not necessarily be subject to ANSI standard (or other standard) requirements. Thus, “equivalent positions” and “non-equivalent positions” are terms used throughout the OQAM, as previously noted.

The licensee explained that the intent for the proposed change is to indicate that those personnel assigned to RP positions that are considered to be “equivalent” positions, including contract personnel, must meet the education and experience requirements of ANSI/ANS 3.1-2014. Conversely, those assigned to “non-equivalent” positions would not be subject to the education and experience requirements of the ANSI standard.

The licensee further explained that upon re-examination, it was determined that it is not necessary to address “non-equivalent” positions in the context of this proposed change, since the intent of the proposed change is to address the applicability of the ANSI/ANS 3.1-2014 requirements to the applicable RP positions, particularly for contract supplemental personnel. Such personnel shall meet the education and experience requirements of ANSI/ANS 3.1-2014. Therefore, the licensee revised the proposed change to eliminate the text that refers to non-equivalent positions in the proposed OQAM appendix A as follows:

Regulatory Guide 1.8 Rev. 4, issued June 2019, which endorses ANSI/ANS 3.1-2014, applies to equivalent positions within the Radiation Protection organization except for the Radiation Protection Manager.

When supplemental contract Radiation Protection personnel are used to perform safety-related activities, these personnel shall meet the education and experience requirements of ANSI/ANS 3.1-2014.

The NRC staff reviewed the licensee’s request for the proposed change to its OQAM, FSAR, and its response to the RAI. The NRC staff determined that the proposed change to the education and experience requirements for the positions of RP first line supervisors, technicians, and supplemental personnel, is consistent with the requirements of ANSI/ANS 3.1-2014, which has been endorsed in RG 1.8, Revision 4. The NRC staff also

determined that the revised proposed change to the OQAM appendix A, based on the licensee's response to the RAI, is appropriate, since it clarified which positions the education and experience requirements of ANSI/ANS 3.1-2014 are applicable. The NRC staff notes that while the applicability of the education and experience requirements, as stated in the licensee's response to the RAI, invokes situations where RP personnel are used to perform safety-related activities, the Callaway FSAR markup submitted in the letter dated June 14, 2023, reflects the licensee's intention to apply the education and experience requirements of ANSI/ANS 3.1-2014 solely on a position specific basis and without reference to the type of work to which the individual would be engaged (i.e., safety-related and non-safety-related work). The proposed change will continue to provide the minimum experience and education requirements necessary to ensure that the assigned personnel can independently evaluate risks, and safely execute the responsibilities associated with these positions.

4.0 CONCLUSION

The NRC staff reviewed the licensee's request for the proposed change to its OQAM, FSAR and its response to the RAI. The NRC staff finds that the proposed change to revise the education and experience requirements for the positions of RP first line supervisors, technicians, and supplemental personnel, is consistent with RG 1.8, Revision 4, and will continue to comply with Criterion II of Appendix B to 10 CFR Part 50, 10 CFR 50.34(b)(6)(ii), 10 CFR 50.54(a), and 10 CFR 50.120, and is therefore, acceptable.

Principal Contributors: Yiu Law, NRR
David Garmon, NRR

Date: September 25, 2023

SUBJECT: CALLAWAY PLANT, UNIT NO. 1 – SAFETY EVALUATION FOR OPERATING
 QUALITY ASSURANCE MANUAL, REVISION 36A (EPID L-2023-LLQ-0000)
 DATED SEPTEMBER 25, 2023

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