



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

May 19, 2021

ANO Site Vice President
Arkansas Nuclear One
Entergy Operations, Inc.
1448 S.R. 333
Russellville, AR 72802

SUBJECT: ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 - REQUEST FOR APPROVAL
OF CHANGE TO THE ENTERGY QUALITY ASSURANCE PROGRAM MANUAL
(EPID L-2020-LLQ-0005)

Dear Sir or Madam:

By letter dated October 26, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20300A324), as supplemented by letters dated April 5, 2021, and April 30, 2021 (ADAMS Accession Nos. ML21095A244 and ML21120A326, respectively), Entergy Operations, Inc. (Entergy, the licensee) submitted a request to the U.S. Nuclear Regulatory Commission (NRC) for approval of a revision to the Entergy Quality Assurance Program Manual (QAPM), Revision 39 for Arkansas Nuclear One, Units 1 and 2. The proposed revision results in a reduction in commitment to the previously accepted Quality Assurance program that was submitted for NRC review and approval in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," Section 50.54(a)(4).

Specifically, the licensee's submittal requested that treatment of safety-related Class 2 and 3 structures, systems, and components identified as low safety significance in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Case N-752, "Risk-Informed Categorization and Treatment for Repair/ Replacement Activities in Class 2 and 3 Systems, Section XI, Division 1," not be required to meet the requirements of the QAPM. Instead, Entergy would develop program elements describing treatment of these low safety significance structures, systems, and components to ensure continued capability and reliability of the design-basis function.

The NRC staff reviewed the subject request and concludes that there is reasonable assurance that the licensee's QAPM will continue to meet the requirements of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, and therefore, the licensee's proposed changes in its QAPM, Revision 39, are acceptable.

If you have any questions, please contact me at (301) 415-4037 or by e-mail at Thomas.Wengert@nrc.gov.

Sincerely,

Thomas J. Wengert, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-313, 50-368, and 72-13

Enclosure:
Safety Evaluation

cc: Listserv



UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

PROPOSED REVISION TO THE ENTERGY QUALITY ASSURANCE PROGRAM MANUAL

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNITS 1 AND 2

DOCKET NOS. 50-313, 50-368, AND 72-13

1.0 INTRODUCTION

By letter dated October 26, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20300A324), as supplemented by letters dated April 5, 2021, and April 30, 2021 (ADAMS Accession Nos. ML21095A244 and ML21120A326, respectively), Entergy Operations, Inc. (Entergy, the licensee) submitted a request to the U.S. Nuclear Regulatory Commission (NRC) for approval of a revision to the Entergy Quality Assurance Program Manual (QAPM), Revision 39 for Arkansas Nuclear One, Units 1 and 2 (ANO, Units 1 and 2). The proposed revision results in a reduction in commitment to the previously accepted Quality Assurance (QA) program that was submitted for NRC review and approval in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," Section 50.54(a)(4).

Specifically, the licensee's submittal requested that treatment of safety-related Class 2 and 3 structures, systems, and components (SSCs) identified as low safety significance (LSS) in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Case N-752, "Risk-Informed Categorization and Treatment for Repair/Replacement Activities in Class 2 and 3 Systems, Section XI, Division 1," not be required to meet the requirements of the QAPM. Instead, Entergy would develop program elements describing treatment of these LSS SCCs to ensure continued capability and reliability of the design-basis function.

2.0 REGULATORY EVALUATION

The regulation in 10 CFR 50.54(a)(4) sets forth the NRC's regulatory requirements regarding changes to a QA program description. Changes to a QA program description that reduce the licensee's commitments must be submitted and receive NRC approval prior to implementation. This includes changes made to the QA program description as presented in the safety analysis report or in a topical report that must be submitted as specified in 10 CFR 50.54(a)(4).

The submittal of a change to the QA program description must include all pages affected by that change and must be accompanied by a forwarding letter identifying the change, the reason for the change, and the basis for concluding that the revised program incorporating the change

Enclosure

continues to satisfy the criteria of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, and the QA program description commitments previously accepted by the NRC.

Appendix B to 10 CFR Part 50 establishes QA requirements for the design, fabrication, construction, and testing of SSCs. The pertinent requirements of Appendix B apply to all activities affecting the safety-related functions of those SSCs and include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying SSCs.

3.0 TECHNICAL EVALUATION

The licensee submitted the QAPM, Revision 39, and requested the addition of new subsection A.7.c, which would state:

For those sites who have received NRC authorization to use the alternative repair/replacement categorization and treatment requirements of Code Case N-752 in lieu of the corresponding sections of ASME Section XI, as referenced in 10 CFR 50.55a Codes and Standards, treatment of safety-related structures, systems, and components (SSCs) identified as low safety significant (LSS) Class 2 and 3 SSCs in accordance with ASME Code Case N-752 is not required to meet the requirements of this manual. Instead, treatment of these LSS SSCs is performed in accordance with existing QAP procedures and processes which include supplemental controls to ensure the capability and reliability of the SSCs design basis function.

On May 19, 2021 (ADAMS Accession No. ML21118B039), the NRC staff authorized the licensee to implement ASME Code Case N-752 at ANO, Units 1 and 2. Currently, ASME Code Case N-752 includes provisions for exempting Class 2 or 3 items categorized as LSS from the QA requirements of paragraph IWA-1400(n) of the 2007 Edition and 2008 Addenda of ASME Code Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components" (applicable Code edition and addenda for the current inservice inspection intervals at ANO, Units 1 and 2). Specifically, IWA-1400(n) requires a QA program in accordance with either Appendix B to 10 CFR Part 50, or ASME NQA-1, "Quality Assurance Requirements for Nuclear Facility Applications." However, this exemption is not applicable if compliance with Appendix B to 10 CFR Part 50 or NQA-1 is required at the Owner's facility. As such, adoption of ASME Code Case N-752 exemption on IWA-1400(n) represents a reduction in commitment to the previously approved Entergy QAPM.

The licensee's repair/replacement program requirements apply to the procurement, design, fabrication, installation, examination, and pressure testing of items within the scope of ASME Code Section XI. Repair/replacement activities include welding, brazing, defect removal, metal removal using thermal processes, rerating, and removing, adding, or modifying pressure retaining items or supports. These activities are currently performed in accordance with the licensee's Appendix B to 10 CFR Part 50 QA program and ASME Code Section XI.

Similarly, for ASME Code Case N-752 items determined to be of LSS, alternative treatment requirements may be implemented. In lieu of these requirements, paragraph -1420, "LSS Items," of ASME Code Case N-752 requires the Owner to define alternative treatment requirements that confirm with reasonable confidence that each LSS item remains capable of performing its safety-related functions under design-basis conditions. As stated in the proposed

QAPM change above, the licensee plans to use current processes and procedures with additional controls for the treatment of Class 2 and 3 LSS SSCs to ensure continued capability and reliability of the design-basis function. For example, changes to the configuration, design, materials, fabrication, examination, and pressure testing requirements used to support repair/replacement activities on Class 2 and 3 LSS SSCs will be performed in accordance with the licensee's existing design change process. Further, any conditions that may prevent an LSS SSC from performing its safety-related function under design-basis conditions will be identified and addressed in accordance with the licensee's corrective action program.

The licensee is also proposing to procure Class 2 and 3 LSS SSCs as nonsafety-related when used in repair/replacement activities performed in accordance with ASME's Code Case N-752. When procuring Class 2 and 3 LSS SSCs as nonsafety-related, the licensee's engineering staff will specify supplemental procurement requirements and implement additional controls, as appropriate, to confirm with reasonable assurance that Class 2 and 3 LSS SSCs will remain capable of performing their intended safety-related functions under design-basis conditions. For example, the licensee will not allow the supplier to make any changes in design (e.g., form, fit, function, or material), and any changes to the procurement order need to be first approved by the licensee. Further, additional controls will include performing receipt inspections using qualified inspection personnel similar to the licensee's requirements used for procuring augmented quality SSCs.

The NRC staff reviewed the licensee's application, as supplemented, for the proposed change to the QAPM to allow the use of ASME Code Case N-752. The NRC staff has reasonable assurance that the licensee's implementation of ASME Code Case N-752 will ensure that Class 2 and 3 LSS SSCs will perform their intended safety-related functions under design-basis conditions. This reasonable assurance is based on the licensee's plans to continue using current processes and procedures, as supplemented, for the treatment of Class 2 and 3 LSS SSCs. In addition, when procuring Class 2 and 3 LSS SSC items, the licensee will specify supplemental procurement requirements and implement additional controls, as described above, to ensure continued capability and reliability of the design-basis function. Therefore, the NRC staff concludes that the proposed Entergy QAPM change continues to provide an acceptable level of quality and safety.

4.0 CONCLUSION

The NRC staff reviewed the licensee's application for the implementation of ASME Code Case N-752 in its QAPM. The NRC staff concludes that there is reasonable assurance that the licensee's QAPM will continue to meet the requirements of Appendix B to 10 CFR Part 50 while implementing ASME Code Case N-752 for the treatment of safety-related SSCs identified as LSS. Therefore, the NRC staff finds that the licensee's proposed changes in the Entergy QAPM, Revision 39, are acceptable.

Principal Contributor: Y. Diaz-Castillo

Date: May 19, 2021

SUBJECT: ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 - REQUEST FOR APPROVAL OF CHANGE TO THE ENTERGY QUALITY ASSURANCE PROGRAM MANUAL (EPID L-2020-LLQ-0005) DATED MAY 19, 2021

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