



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

May 1, 2018

Mr. Coley C. Chappell
Manager, Design and Program Engineering
Entergy Nuclear Operations, Inc.
Vermont Yankee
320 Governor Hunt Road
Vernon, VT 05354

SUBJECT: ENTERGY VERMONT YANKEE QUALITY ASSURANCE PROGRAM MANUAL
VERMONT YANKEE NUCLEAR POWER STATION AND INDEPENDENT
SPENT FUEL STORAGE FACILITY – REVIEW AND ACCEPTANCE OF
CHANGES (EPID L-2017-DP3-0002)

Dear Mr. Chappell:

The U.S. Nuclear Regulatory Commission (NRC) has completed its review of the proposed changes to the Entergy Nuclear Operations, Inc. (ENO) Vermont Yankee Nuclear Power Station (VYNPS) Quality Assurance Program Manual (QAPM), Revision 7, in response to your letter dated September 19, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17268A152) requesting approval of the changes. The VY QAPM is associated with license DPR-28 for the VYNPS, docket number 72-59 for the Independent Spent Fuel Storage Installation (ISFSI), and docket number 71-0907 for radioactive material packages.

The proposed QAPM reflects the transition of the decommissioning status of the VYNPS that will follow completion of the transfer of all spent nuclear fuel from the spent fuel pool to dry fuel storage in the ISFSI, and represents a reduction in commitments from the previously approved VYNPS QAPM. Subsequent to this transition, there will be no structures, systems and components (SSCs), items or activities classified as safety-related as defined in 10 CFR 50 Appendix B, and the highest level of safety significance for items and activities remaining at the facility are designated as Important-to-Safety (ITS) under 10 CFR 71 and 10 CFR 72, as defined in Appendix A of the QAPM.

Specific changes include:

- Changing the program basis from ANSI/ANS standards to primarily using Regulatory Guide 7.10, "Establishing Quality Assurance Programs for Packaging Used in Transport of Radioactive Material," Revision 3, as a guidance document.
- Removing the Safety Review Committee (SRC) from Appendix D of the QAPM and replacing it with the Independent Management Assessment (IMA) function described in the revised QAPM Section A.3.f.

- Eliminating requirements for fire protection and loss prevention program inspections and audits from QAPM Section C.2.a.2 while continuing to require audits of the fire protection program and implementing procedures.

Other corresponding changes to the QAPM are also designated as reductions in commitments to the previously approved QAPM, and are described in the attachments to the September 19, 2017, request for approval of the changes to the QAPM.

The changes were submitted for NRC review and approval in accordance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) paragraph 50.54(a)(4).

The NRC staff has completed its review of your request and has determined that the Quality Assurance Program, as described in the VYNPS QAPM submitted on September 19, 2017, is in conformance with the applicable portions of Appendix B to 10 CFR Part 50. The NRC staff concludes that the proposed Vermont Yankee QAPM Revision 7 follows the NRC guidance in the enclosed NRC safety evaluation, conforms to the format of NUREG-0800, Section 17.3, complies with Appendix B to 10 CFR Part 50 requirements for the QA program and is, therefore, acceptable.

As described in the letter dated September 19, 2017, requesting approval of the changes to the QAPM, the revised QAPM will be implemented within 60 days following ENO notification to the NRC that all spent nuclear fuel at the VYNPS has been transferred out of the spent fuel pool and placed within the ISFSI.

If you have any questions, please contact me at (301) 415-6634 or via e-mail at Jack.Parrott@nrc.gov.

Sincerely,

/RA/

Jack D. Parrott, Senior Project Manager
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

Docket Nos. 50-271
72-59
71-0907

Enclosure:
Safety Evaluation

cc: Distribution via Listserv
Ms. June Tierney, Vermont Department of Public Service

SUBJECT: ENTERGY VERMONT YANKEE QUALITY ASSURANCE PROGRAM MANUAL
 VERMONT YANKEE NUCLEAR POWER STATION AND INDEPENDENT
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 CHANGES (EPID L-2017-DP3-0002), DATED MAY 1, 2018

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*** via e-mail**

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DATE	04/13/2018	04/18/2018	04/25/2018	04/30/2018	05/01/2018

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SAFETY EVALUATION OF THE ENTERGY NUCLEAR OPERATIONS, INC.,
VERMONT YANKEE NUCLEAR POWER STATION
QUALITY ASSURANCE PROGRAM MANUAL, REVISION 7

1.0 INTRODUCTION

By letter dated September 19, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17268A152), Entergy Nuclear Operations, Inc., Vermont Yankee Nuclear Power Station, hereafter referred to as VY, submitted for the U.S. Nuclear Regulatory Commission (NRC) staff's review, Revision 7 of the "Vermont Yankee Nuclear Power Station Quality Assurance Program Manual," in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50.54(a)(4).

The VY Quality Assurance Program Manual (QAPM) provides a top-level overview of the quality program controls applied to quality related items and activities at VY during the decommissioning phase. The QAPM is based on the applicable portions of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities;" 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste," Subpart G, "Quality Assurance;" and 10 CFR Part 71, "Packaging and Transportation of Radioactive Material," Subpart H, "Quality Assurance."

2.0 REGULATORY BASIS

The NRC's regulatory requirements related to Quality Assurance (QA) programs are set forth in Appendix B to 10 CFR Part 50 (Appendix B), 10 CFR 50.34(b)(6)(ii), and 10 CFR 50.54(a). In addition, the NRC's regulatory requirements related to QA programs for the packaging and transportation of radioactive material and independent storage of spent nuclear fuel are addressed respectively, in 10 CFR Part 72, Subpart G, and 10 CFR Part 71, Subpart H.

Appendix B establishes the quality assurance requirements for the design, fabrication, construction, and testing of structures, systems, and components (SSCs) for the VY facility. The pertinent quality assurance 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.

The regulations in 10 CFR 50.34, "Content of applications; technical information," require that every applicant for an operating license include information in its Final Safety Analysis Report (FSAR) on the managerial and administrative controls to be used to ensure safe operation. The information on the controls shall also include a discussion on how the applicable requirements of Appendix B will be satisfied.

The regulations in 10 CFR 50.54, "Conditions of Licenses," require each power plant subject to the requirements of Appendix B to implement a QA program and 10 CFR 50.54(a)(4) requires licensees to submit to the NRC changes to their QA Program that reduce commitments.

The regulations in 10 CFR Part 72, Subpart G, establishes the quality assurance requirements

that apply to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, modification of SSCs, and decommissioning that are important to safety.

The regulations in 10 CFR Part 71, Subpart H, establish the quality assurance requirements applying to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, and modification of components of packaging that are important to safety.

3.0 EVALUATION

The request for review and approval of the VY QAPM, considered a reduction in commitment, was submitted in letter dated September 19, 2017, in accordance with the provisions of 10 CFR 50.54(a)(4). The letter included proposed Revision 7 to the QAPM (provided in Attachment 3 thereto).

In evaluating the adequacy of the revisions to the QAPM, the NRC staff used the guidance contained in NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," Section 17.3, "Quality Assurance Program Description," dated August 1990 (ADAMS Accession No. ML052350376); hereafter referred to as Section 17.3, which provides acceptance criteria for QAPMs. In addition, the staff used the guidance contained in NUREG-1567, "Standard Review Plan for Spent Fuel Dry Storage Facilities," dated March 2000 (ADAMS Accession No. ML003686776).

The primary changes proposed in Revision 7 of the QAPM include:

- The program basis is changed from ANSI/ANS standards as the primary guidance to Regulatory Guide 7.10, "Establishing Quality Assurance Programs for Packaging Used in Transport of Radioactive Material," Revision 3. Regulatory Guide 7.10, Revision 2 was previously included in QAPM Appendix C as an additional guidance document. Revision 7 also involves the elimination of commitments to standards and Regulatory Guides (RGs) that are no longer necessary following the completion of the transfer of all spent fuel from the spent fuel pool to dry fuel storage in the independent spent fuel storage installation (ISFSI). Subsequent to this transfer, there will be no SSCs, items or activities classified as safety-related as defined in Appendix B to 10 CFR Part 50 at the VY facility. The highest level of safety significance for items and activities remaining at the VY facility is designated as important to safety (ITS) under 10 CFR Part 71 and 10 CFR Part 72, and defined in Appendix A of the QAPM. RG 7.10 includes quality assurance program guidance for ITS activities under 10 CFR Part 71. The staff reviewed the proposed changes and determined that these changes continue to meet the guidance and acceptance criteria contained in Chapter 12 of NUREG-1567 and therefore, meet the requirements of 10 CFR Part 71, Subpart H and 10 CFR Part 72, Subpart G for items and activities that are important to safety.
- The safety review committee (SRC) is removed from Appendix D of the QAPM and replaced with the independent management assessment (IMA) function described in QAPM Section A.3.f. The IMAs are periodically performed to monitor overall performance and confirm that the activities affecting quality comply with the QAPM and that the QAPM is effectively implemented. IMAs are performed by an individual(s) designated by the chief nuclear officer, who are independent of the activities being

assessed and provide the appropriate level of expertise. The IMAs will ensure that independent oversight of activities being performed at VY will continue during dry fuel storage and decommissioning. The staff reviewed the proposed changes to the QAPM and finds that the changes are acceptable and continue to meet the acceptance criteria in Chapter 12 of NUREG-1567, and therefore, meet the requirements of 10 CFR Part 71, Subpart H and 10 CFR Part 72, Subpart G for items and activities that are important to safety.

- Requirements for fire protection and loss prevention program inspections and audits have been eliminated from QAPM Section C.2.a.2, based on all spent nuclear fuel being moved from the spent fuel pool to the ISFSI. However, there continues to be a requirement for audits of the fire protection program and implementing procedures once every 24 months. The staff reviewed the proposed changes to the QAPM and finds that the changes are acceptable and continue to meet the acceptance criteria in Chapter 12 of NUREG-1567, and therefore, meet the requirements of 10 CFR Part 71, Subpart H and 10 CFR Part 72, Subpart G for items and activities that are important to safety.
- Attachment 1 of the letter dated September 19, 2017 provided a comparison of the QAPM changes to RG 7.10. The comparison matrix outlined changes and differences between RG 7.10 and provided justification. Attachment 3 of the letter dated September 19, 2017 provided the changes to the QAPM. The staff reviewed the proposed changes to the QAPM and finds that the changes are acceptable and continue to meet the applicable requirements of 10 CFR Part 71, Subpart H and 10 CFR Part 72, Subpart G for items and activities that are important to safety.

4.0 CONCLUSION

The NRC staff used the acceptance criteria in Chapter 12 of NUREG-1567 and NUREG-0800, Section 17.3 as the basis for evaluating the acceptability of the changes to the VY QAPM, in conformance with the applicable portions of 10 CFR Part 71, and 10 CFR Part 72, and Appendix B to 10 CFR Part 50. The VY QAPM adequately describes the provisions to meet the quality assurance requirements of 10 CFR Part 71, 10 CFR Part 72 and Appendix B to 10 CFR Part 50 for activities that are ITS for a facility that has moved all its spent fuel from its spent fuel pool to the ISFSI. The NRC staff concludes that the proposed changes to the VY QAPM in Revision 7 follows the NRC guidance contained within, and conforms to the format of NUREG-0800, Section 17.3, and comply with the quality assurance requirements contained in 10 CFR Part 71 and 10 CFR Part 72 and are, therefore, acceptable.

5.0 REFERENCES

1. NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," Section 17.3, "Quality Assurance Program Description" dated August 1990 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML052350376)
2. NUREG-1567, "Standard Review Plan for Spent Fuel Dry Storage Facilities," dated March 2000 (ADAMS Accession No. ML003686776)

3. RG 7.10, "Establishing Quality Assurance Programs for Packaging Used in Transport of Radioactive Material," Revision 3, dated June 2015 (ADAMS Accession No. ML1406A505)
4. Chappell, Coley, Entergy Nuclear Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Entergy Vermont Yankee Quality Assurance Program Manual," Docket Nos. 50-271, 72-59, 71-0907, dated September 19, 2017 (ADAMS Accession No. ML17268A152)