



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

May 1, 2017

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

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 1 – RELIEF REQUEST VRR-ANO1-2017-1
FOR THE FIFTH 10-YEAR INTERVAL OF THE INSERVICE TESTING
PROGRAM (CAC NO. MF8853)

Dear Sir or Madam:

By letter dated November 16, 2016, Entergy Operations, Inc. (Entergy, the licensee), submitted Relief Request VRR-ANO1-2017-1, for the use of an alternative to certain requirements of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code), for the inservice testing (IST) program at Arkansas Nuclear One, Unit 1, for the fifth 10-year program interval, which is scheduled to begin on December 1, 2017.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(2), the licensee initially requested an alternative on the basis that compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. However, during its review, the U.S. Nuclear Regulatory Commission (NRC) staff determined that the request would be more appropriately considered as a request pursuant to 10 CFR 50.55a(z)(1), and whether the proposed alternative would provide an acceptable level of quality and safety. Consequently, the staff reviewed the request based on the criterion of 10 CFR 50.55a(z)(1).

The NRC staff has reviewed the subject relief request and concludes, as set forth in the enclosed safety evaluation, that Entergy has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(1) and that the proposed alternative provides reasonable assurance that the affected component is operationally ready. The NRC staff concludes that not complying with the specified ASME OM Code requirements would still provide an acceptable level of quality and safety. Therefore, the NRC staff authorizes alternative request VRR-ANO1-2017-1 for ANO-1 for the fifth 10-year IST program interval, which is scheduled to begin on December 1, 2017.

All other ASME OM Code requirements for which relief was not specifically requested and approved in the subject request, remain applicable.

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

Sincerely,

A handwritten signature in black ink, appearing to read "R. Pascarelli". The signature is fluid and cursive, with a prominent initial "R" and a long, sweeping tail.

Robert J. Pascarelli, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-313

Enclosure:
Safety Evaluation

cc w/encl: Distribution via Listserv



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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELIEF REQUEST VRR-ANO-1-2017-1

RELATED TO THE INSERVICE TESTING PROGRAM, FIFTH 10-YEAR INTERVAL

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT 1

DOCKET NO. 50-313

1.0 INTRODUCTION

By letter dated November 16, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16321A412), Entergy Operations, Inc. (Entergy, the licensee) submitted Relief Request VRR-ANO1-2017-1 to the U.S. Nuclear Regulatory Commission (NRC), proposing alternatives to certain requirements of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code), for the inservice testing (IST) program at Arkansas Nuclear One, Unit 1 (ANO-1) for the fifth 10-year IST program interval, which is scheduled to begin on December 1, 2017.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(2), the licensee initially requested an alternative on the basis that compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. However, during its review, the NRC staff determined that the request would be more appropriately considered as a request pursuant to 10 CFR 50.55a(z)(1), and whether the proposed alternative would provide an acceptable level of quality and safety. Consequently, the staff reviewed the request based on the criterion of 10 CFR 50.55a(z)(1). By e-mail dated April 13, 2017 (ADAMS Accession No. ML17107A002), the licensee clarified its request accordingly.

2.0 REGULATORY EVALUATION

The regulations in 10 CFR 50.55a(f), "Inservice testing requirements," require, in part, that IST of certain ASME Code Class 1, 2, and 3 components must meet the requirements of the ASME OM Code and applicable addenda, except where alternatives have been authorized pursuant to paragraphs 10 CFR 50.55a(z)(1) or 10 CFR 50.55a(z)(2).

The regulations in 10 CFR 50.55a(z), state, in part, that alternatives to the requirements of 10 CFR 50.55a(f) may be authorized by the NRC if the licensee demonstrates that: (1) the proposed alternative provides an acceptable level of quality and safety, or (2) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. In accordance with 10 CFR 50.55a(z)(1), as clarified

in the licensee's e-mail dated April 13, 2017, the licensee stated that the proposed alternative in Relief Request VRR-ANO1-2017-1 would provide an acceptable level of quality and safety.

Based on the above, and subject to the NRC's findings with respect to authorizing the proposed alternative to the ASME OM Code given below, the NRC staff concludes that regulatory authority exists for the licensee to request and the Commission to authorize the alternative requested by the licensee.

3.0 TECHNICAL EVALUATION

3.1 The Licensee's Alternative Request, VRR-ANO1-2017-1

Applicable Code Edition and Addenda

The ANO-1 fifth 10-year IST program for this interval is scheduled to begin on December 1, 2017. The applicable ASME OM Code Edition is the 2004 Edition with addenda through Omb-2006.

Code Requirements

The licensee requested relief from the following OM Code requirements:

- Mandatory Appendix I, paragraph I-8200, "Seat Tightness Testing," states, in part, that "Seat tightness testing shall be performed in accordance with the Owner's valve test procedure."

Relief was requested for the following valve:

- PSV-1617, Sodium Hydroxide Tank Pressure / Vacuum Relief Valve

Reason for Request

In its letter dated November 16, 2016, the licensee states, in part:

Relief valve PSV-1617 has an active open safety function to relieve overpressure and vacuum conditions in the sodium hydroxide storage tank. Note that although the tank vent valve AV-10 is normally open to perform these functions, PSV-1617 is considered to be the primary and most reliable mechanism for performing this function. The seat leakage testing of PSV-1617 produces no useful information since PSV-1617 has no significant safety function in the closed position.

Proposed Alternative

In its letter dated November 16, 2016, the licensee states, in part:

Seat leakage testing of this vacuum breaker valve, PSV-1617, will not be performed. This vacuum breaker valve, PSV-1617, has no significant safety function in the closed position. Furthermore, seat leakage is irrelevant since, in effect, PSV-1617 is normally bypassed by a line with a normally-open vent valve, AV-10.

3.2 NRC Staff Evaluation

Paragraph I-7380 of Mandatory Appendix I of the ASME OM Code requires that Class 2 and 3 vacuum relief valves shall be actuated to verify open and close capability, set-pressure, and performance of any pressure and position sensing accessories. Also, compliance with the Owner's seat tightness criteria shall be verified.

Paragraph I-8200 requires that seat tightness testing shall be performed in accordance with the Owner's valve test procedure, and provides requirements for the seat tightness test methods.

Notwithstanding the above, the NRC staff notes that the safety function of valve PSV-1617 is to open to relieve overpressure or vacuum conditions in the sodium hydroxide tank. The staff further notes that valve PSV-1617 has no safety function in the closed position and is normally bypassed by a line with a normally open valve. Based on the above, the NRC staff finds that, for valve PSV-1617, the performance of seat leakage testing as required by the ASME OM Code, serves no safety function. Therefore, the NRC staff finds that not performing the test would still provide an acceptable level of quality and safety.

4.0 CONCLUSION

As set forth above, the NRC staff determines that for alternative request VRR-ANO1-2017-1, the proposed alternative provides reasonable assurance that the affected component is operationally ready. The NRC staff concludes that not complying with the specified ASME OM Code requirements would still provide an acceptable level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(1). Therefore, the NRC staff authorizes alternative request VRR-ANO1-2017-1 for ANO-1 for the fifth 10-year IST program interval, which is scheduled to begin on December 1, 2017.

All other ASME OM Code requirements for which relief was not specifically requested and approved in the subject request, remain applicable.

Principal Contributor: John Billerbeck

Date: May 1, 2017

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 1 – RELIEF REQUEST VRR-ANO1-2017-1
FOR THE FIFTH 10-YEAR INTERVAL OF THE INSERVICE TESTING
PROGRAM (CAC NO. MF8853) DATED MAY 1, 2017

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***via email**

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