



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

March 29, 2022

Mr. David B. Hamilton
Executive Vice President and Chief
Nuclear Officer
Energy Harbor Nuclear Corp.
168 E. Market Street
Akron, OH 44308-2014

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2, AND
DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1 – CORRECTION
LETTER – ISSUANCE OF AUTHORIZATION OF PROPOSED ALTERNATIVE
TO USE ASME OM CODE CASE OMN-27 (EPID L-2021-LLR-0026)

Dear Mr. Hamilton:

By letter dated April 1, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21091A259), Energy Harbor Nuclear Corporation (the licensee) submitted a request to the U.S. Nuclear Regulatory Commission (NRC) for the use of an alternative to certain Inservice Testing (IST) Program requirements of the American Society of Mechanical Engineers *Code for Operation and Maintenance of Nuclear Power Plants* (ASME OM Code), at Davis-Besse Nuclear Power Station (DBNPS) and Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS-1 and BVPS-2, respectively).

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) paragraph 50.55a(z)(1), the licensee requested to use Alternative Request RV-2 for DBNPS, Alternative Request VRR5 for BVPS-1, and Alternative Request VRR7 for BVPS-2, regarding valve IST, ASME OM Code Case OMN-27, “Alternative Requirements for Testing Category A Valves (Non-PIV [pressure isolation valve]/CIV [containment isolation valve]),” to determine valve test frequency in lieu of the 2-year leakage rate test frequency requirement specified in ASME OM Code Section ISTC-3630(a) for Category A valves that are not reactor coolant system PIVs or CIVs on the basis that the proposed alternative would provide an acceptable level of quality and safety.

By letter dated January 21, 2022 (ADAMS Accession No. ML222012A297), the NRC staff concluded that the licensee has adequately addressed the regulatory requirements set forth in 10 CFR 50.55a(z)(1) for Alternative Requests RV-2, VRR5, and VRR7 for DBNPS, BVPS-1, and BVPS-2, respectively. Therefore, the NRC staff authorized the use of Alternative Request RV-2 for DBNS, Alternative Request VRR5 for BVPS-1, and Alternative Request VRR7 for BVPS-2 for the remainder of the fourth 10-year IST program interval at DBNS, the remainder of the fifth 10-year IST program interval at BVPS-1, and the remainder of the fourth 10-year program interval at BVPS-2, which ends on September 20, 2022, September 19, 2027, and September 19, 2027, respectively.

On March 18, 2022 (ADAMS Accession No. ML22080A251), the licensee informed the NRC of editorial inconsistencies in the safety evaluation (SE). The enclosure to this letter provides the corrected SE.

There is no change in the NRC authorization of the request. We apologize for the inconvenience.

If you have any questions, please contact the Project Manager, Bhalchandra Vaidya at 301-415-3308 or via e-mail at Bhalchandra.Vaidya@nrc.gov.

Sincerely,

Nancy L. Salgado, Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-334, 50-412, 50-346

Enclosure:
Corrected Safety Evaluation

cc: ListServ



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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CORRECTED SAFETY EVALUATION
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
PROPOSED ALTERNATIVE REQUESTS RV-2, VRR5, AND VRR7
REGARDING FOURTH 10-YEAR INSERVICE TESTING INTERVAL PROGRAM FOR
DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1,
FIFTH 10-YEAR INSERVICE TESTING INTERVAL PROGRAM FOR BEAVER VALLEY
POWER STATION, UNIT NO. 1
FOURTH 10-YEAR INTERVAL INSERVICE TESTING PROGRAM FOR BEAVER VALLEY
POWER STATION, UNIT NO. 2
ENERGY HARBOR NUCLEAR CORP.
DOCKET NOS. 50-346, 50-344, AND 50-412
EPID L-2021-LLR-0026

1.0 INTRODUCTION

By letter dated April 1, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21091A259), Energy Harbor Nuclear Corp. (Energy Harbor, the licensee) submitted a request to the U.S. Nuclear Regulatory Commission (NRC) for the use of an alternative to certain inservice testing (IST) program requirements of the American Society of Mechanical Engineers (ASME) *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code), at Davis-Besse Nuclear Power Station (DBNPS) and Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS-1 and BVPS-2, respectively).

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) paragraph 50.55a(z)(1), the licensee requested to use Alternative Request RV-2 for DBNPS, Alternative Request VRR5 for BVPS-1, and Alternative Request VRR7 for BVPS-2, regarding valve IST, on the basis that the proposed alternative would provide an acceptable level of quality and safety.

2.0 REGULATORY EVALUATION

Paragraph 50.55a(f)(4) of 10 CFR, "Inservice testing standards requirement for operating plants," states, in part, that:

Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, pumps and valves that are within the scope of the ASME OM Code must meet the inservice test requirements (except design and access provisions) set forth in the ASME OM Code and addenda that become effective subsequent to editions and addenda specified in [10 CFR 50.55a(f)(2) and (3)] and that are incorporated by reference in [10 CFR 50.55a(a)(1)(iv)], to the extent practical within the limitations of design, geometry, and materials of construction of the components.

The regulations in 10 CFR 50.55a(z), "Alternatives to codes and standards requirements," state, in part, that alternatives to the requirements of 10 CFR 50.55a(f) may be used, when authorized by the NRC, if the licensee demonstrates: (1) the proposed alternatives would provide 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.

Based on the above, and subject to the following technical evaluation, the NRC staff finds that regulatory authority exists for the licensee to request, and the NRC to authorize, the proposed alternative requested by the licensee.

3.0 TECHNICAL EVALUATION

The DBNPS fourth 10-year IST program interval began on September 21, 2012, and is scheduled to end on September 20, 2022. The BVPS-1 fifth 10-year IST program interval began on September 20, 2017, and is scheduled to end on September 19, 2027. The BVPS-2 fourth 10-year IST program interval began on September 20, 2017, and is scheduled to end on September 19, 2027. The applicable ASME OM Code edition and addenda for all three 10-year IST program intervals is the 2004 Edition through 2006 Addenda, which are incorporated by reference in 10 CFR 50.55a with conditions.

3.1 Licensee's Alternative Requests RV-2, VRR5, and VRR7

ASME OM Code, Subsection ISTC, "Inservice Testing of Valves in Light-Water Reactor Nuclear Power Plants," paragraph ISTC-3630, "Leakage Rate for Other Than Containment Isolation Valves," subparagraph (a), "Frequency," states, "Tests shall be conducted at least once every 2 years."

The licensee requested to use the proposed alternative described below for all ASME OM Code Category A valves, excluding reactor coolant system (RCS) pressure isolation valves (PIVs) and containment isolation valves (CIVs), in their IST program that meet the requirements of ASME OM Code Case OMN-27, "Alternative Requirements for Testing Category A Valves (Non-PIV/CIV)."

ASME OM Code, Subsection ISTC, paragraph ISTC-1300, "Valve Categories," defines Category A valves as valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their required function(s), as specified in paragraph ISTA-1100, "Scope."

3.1.1 Reason for Request

The licensee states that ASME OM Code Case OMN-27 establishes requirements for implementing and maintaining an ASME OM Code Category A valve performance-based leakage test methodology that may be implemented in lieu of the 2-year leakage rate test interval required per ASME OM Code, Subsection ISTC, subparagraph ISTC-3630(a). Code Case OMN-27 has not been approved for use in Regulatory Guide (RG) 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," Revision 3, dated October 2019.

3.1.2 Proposed Alternative

The licensee proposes to apply the ASME OM Code Case OMN-27 provisions in their entirety for implementing and maintaining a performance-based valve leakage test methodology as an alternative to the biennial valve leakage rate test interval required by ASME OM Code, Subsection ISTC, subparagraph ISTC-3630(a). This will apply to all ASME OM Code Category A valves except RCS PIVs and CIVs.

The plant staff at DBNPS, BVPS-1, and BVPS-2, have been testing their Category A valves, excluding RCS PIVs and CIVs, every 2 years, so this trending history provides justification to implement ASME OM Code Case OMN-27 for these valves.

3.2 NRC Staff Evaluation

The licensee proposes to apply ASME OM Code Case OMN-27 in its entirety for all Category A valves that are not RCS PIVs or CIVs, at DBNPS, BVPS-1, and BVPS-2. These valves are identifiable in the IST program plans for DBNPS, BVPS-1, and BVPS-2. Code Case OMN-27 is applicable to the 1998 Edition through the 2020 Edition of the ASME OM Code, which includes the licensee's Code of Record for the three 10-year IST program intervals described above (2004 Edition through 2006 Addenda of the ASME OM Code). The Code Case has been approved by the ASME OM Standards Committee, with the NRC staff representative voting in the affirmative. The Code Case has also been approved by the ASME Board of Nuclear Codes and Standards.

In response to the alternative requests for DBNPS, BVPS-1, and BVPS-2, the NRC staff has reviewed ASME OM Code Case OMN-27 and considers it to be acceptable for use by the licensee. Further, the NRC staff has proposed to include Code Case OMN-27 in the ongoing Revision 4 to RG 1.192 as acceptable for use. The NRC staff has not proposed any conditions on the use of Code Case OMN-27.

Based on its review, the NRC staff finds that allowing the use of Code Case OMN-27 provides an acceptable level of quality and safety for the ASME OM Code Category A valves, excluding RCS PIVs and CIVs, because this alternative will provide adequate indication of valve performance. If test results for a valve exceed the allowable acceptance criteria, the valve will be returned to the initial 2-year test interval.

4.0 CONCLUSION

As set forth above, the NRC staff has determined that Alternative Requests RV-2, VRR5, and VRR7 for DBNPS, BVPS-1, and BVPS-2, respectively, provide an acceptable level of quality and safety for the ASME OM Code Category A valves, excluding RCS PIVs and CIVs. These valves are identifiable in the IST program plans for DBNPS, BVPS-1, and BVPS-2.

Accordingly, the NRC staff concludes that the licensee has adequately addressed the regulatory requirements set forth in 10 CFR 50.55a(z)(1) for Alternative Requests RV-2, VRR5, and VRR7 for DBNPS, BVPS-1, and BVPS-2, respectively. Therefore, the NRC staff authorizes the use of Alternative Request RV-2 for DBNPS, Alternative Request VRR5 for BVPS-1, and Alternative Request VRR7 for BVPS-2, for the remainder of the fourth 10-year IST program interval at DBNPS, the remainder of the fifth 10-year IST program interval at BVPS-1, and the remainder of the fourth 10-year program interval at BVPS-2, which ends on September 20, 2022, September 19, 2027, and September 19, 2027, respectively.

All other ASME OM Code requirements for which relief or an alternative was not specifically requested and granted or authorized (as applicable) as part of this request remain applicable.

Principal Contributor: Robert Wolfgang, NRR/DEX/EMIB

Date: March 29, 2022

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