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

August 20, 2020

Mr. Rod L. Penfield
Site Vice President
Energy Harbor Nuclear Corp.
Beaver Valley Power Station
Mail Stop P-BV-SSEB
P.O. Box 4, Route 168
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT 2 – ISSUANCE OF RELIEF REQUEST SRR-1, REVISION 0, FROM THE REQUIREMENTS OF THE ASME CODE (EPID L-2020-LLR-0050 [COVID-19])

Dear Mr. Penfield:

By letter dated April 3, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML20092K031), as supplemented by a letter also dated April 3, 2020 (ADAMS Accession No. ML20094K449), Energy Harbor Nuclear Corp. (the licensee) proposed an alternative to specific requirements in the 2004 Edition through 2006 Addenda of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) at Beaver Valley Power Station (Beaver Valley), Unit 2.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(2), the licensee requested to use the proposed alternative in request SRR-1, Revision 0 (titled as SSR-1 in the original request dated April 3, 2020), on the basis that complying with the requirements of the OM Code would result in hardship without a compensating increase in the level of quality and safety.

The U.S. Nuclear Regulatory Commission (NRC) staff concludes that request SRR-1, Revision 0, will provide reasonable assurance that the snubbers at Beaver Valley, Unit 2, listed in the licensee's request are operationally ready to perform their safety functions until refueling outage 2R22 currently scheduled for the fall of 2021. The NRC staff finds that complying with the requirements of the OM Code would result in hardship without a compensating increase in the level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all the regulatory requirements set forth in 10 CFR 50.55a(z)(2). Therefore, the NRC authorizes the use of request SRR-1 at Beaver Valley, Unit 2, until the next scheduled refueling outage (2R22) in fall 2021.

The enclosed safety evaluation documents the technical basis for the NRC's verbal authorization of April 9, 2020 (ADAMS Accession No. ML20100N322).

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

If you have any questions, please contact Jennifer Tobin, the Beaver Valley Project Manager, at 301-415-2328 or by e-mail to Jennifer.Tobin@nrc.gov.

Sincerely,

James G. Danna

Digitally signed by James G. Danna
Date: 2020.08.20 13:27:00 -04'00'

James G. Danna, Chief
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosure:
Safety Evaluation

cc: Listserv

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELIEF REQUEST SRR-1, REVISION 0

REGARDING ALTERNATE SNUBBER TESTING

ENERGY HARBOR NUCLEAR CORP.

BEAVER VALLEY POWER STATION, UNIT 2

DOCKET NO. 50-412

1.0 INTRODUCTION

By letter dated April 3, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20092K031) as supplemented by a letter also dated April 3, 2020 (ADAMS Accession No. ML20094K449), Energy Harbor Nuclear Corp. (the licensee) proposed an alternative to specific requirements in the 2004 Edition through 2006 Addenda of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) for Beaver Valley Power Station (Beaver Valley), Unit 2, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Section 55a, "Codes and Standards."

Specifically, the licensee's proposed alternative, "10 CFR 50.55a Request Number SRR-1, Revision 0" (titled as SSR-1 in the original request dated April 3, 2020), requests the U.S. Nuclear Regulatory Commission (NRC) to authorize a one-time extension of the operational readiness testing to the next refueling outage (RFO) (2R22) for 24 specific snubbers in the inservice testing (IST) program at Beaver Valley Power Station (Beaver Valley), Unit 2. The licensee provided justification that compliance with certain requirements in the ASME OM Code, Subsection ISTD, "Preservice and Inservice Examination and Testing of Dynamic Restraints (Snubbers) in Light-Water Reactor Nuclear Power Plants," paragraph ISTD-5200, "Inservice Operational Readiness Testing," to perform functional testing of the specific snubbers during RFO 2R21 in the spring of 2020 would result in a hardship without a compensating increase in the level of quality and safety in accordance with 10 CFR 50.55a(z)(2).

The NRC verbally authorized the licensee's request on April 9, 2020 (ADAMS Accession No. ML20100N322).

2.0 REGULATORY EVALUATION

Adherence to the ASME OM Code is mandated by 10 CFR 50.55a(g)(4), which states, in part, that ASME Code Class 1, 2, and 3 components will meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME OM Code for snubber examination and testing that become effective subsequent to editions and

addenda specified in 10 CFR 50.55a(g)(2) and (3) and that are incorporated by reference in 10 CFR 50.55a(a), to the extent practical, within the limitations of design, geometry, and materials of construction of the components.

Pursuant to 10 CFR 50.55a(b)(3)(v)(B), "Snubbers: Second provision," the licensee must comply with the provisions for examining and testing snubbers in Subsection ISTD of the ASME OM Code and make appropriate changes to its technical specifications or licensee-controlled documents when using the 2006 Addenda and later editions and addenda of Section XI of the ASME Boiler and Pressure Vessel Code.

Paragraph 50.55a(z) of 10 CFR states, in part, that alternatives to the requirements of paragraphs (b) through (h) of 10 CFR 50.55a, or portions thereof, may be used when authorized by the Director, Office of Nuclear Reactor Regulation. A proposed alternative must be submitted and authorized prior to implementation. The applicant or licensee must demonstrate that: (1) the proposed alternative would provide an acceptable level of quality and safety; or (2) compliance with the specified requirements of this section would result in hardship 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 the use of an alternative and the NRC to grant relief and the use of the proposed alternative.

3.0 TECHNICAL EVALUATION

3.1 ASME Code Components Affected

Request SRR-1, Revision 0

In its submittal, the licensee requests a one-time extension of the operational readiness testing interval for the following 24 snubbers at Beaver Valley, Unit 2:

Table 1

Snubber Component Number	Snubber Model	Defined Test Plan Group (DTPG)	Component Classification	Service Life Expiration
2CCP-PSSP301	PSA-10	AB	Safety-Related	10/5/2030
2EDG-PSSP042A	PSA-3	DG	Safety-Related	9/25/2030
2FWS-PSSP002A	30 72 56 RC1-SP	FW	Safety-Related	10/1/2038
2FWS-PSSP002B	30 72 56 RC1-SP	FW	Safety-Related	10/1/2038
2MSS-PSSP108A	30 72 16 RC1-S5	MS-H	Safety-Significant	9/28/2038
2MSS-PSSP108B	30 72 16 RC1-S5	MS-H	Safety-Significant	9/30/2038
2MSS-PSSP103	PSA-100	MS-P10Y	Safety-Significant	10/15/2022
2MSS-PSSP456	PSA-1	MS-P10Y	Safety-Related	10/28/2027
2MSS-PSSP151B	PSA-10	MS-P6Y	Safety-Significant	11/30/2021
2CHS-PSSP024	30 18 56 RF1	RBX-L	Safety-Related	3/22/2034

Snubber Component Number	Snubber Model	Defined Test Plan Group (DTPG)	Component Classification	Service Life Expiration
2CHS-PSSP025	30 18 56 RF1	RBX-L	Safety-Related	3/9/2034
2BDG-PSSP947	30 18 56 RF1	RBX-L	Safety-Related	3/19/2034
2RCS-PSSP012A	PSA-10	RBX-P	Safety-Significant	4/12/2022*
2RCS-PSSP019X	PSA-10	RBX-P	Safety-Significant	10/21/2024
2RCS-PSSP891A	PSA-3	RBX-P	Safety-Significant	10/21/2024
2RCS-PSSP892A	PSA-10	RBX-P	Safety-Significant	10/1/2024
2SIS-PSSP208X	PSA-1	RBX-P	Safety-Related	2/18/2023*
2SIS-PSSP209A	PSA-1	RBX-P	Safety-Related	2/18/2023*
2RCS-SN21C12	12 X 6.25	S/G	Safety-Related	8/14/2027
2RSS-PSSP579A	30 18 56 RF1	SFGD-H	Safety-Related	9/28/2035
2RSS-PSSP579B	30 18 56 RF1	SFGD-H	Safety-Related	9/28/2035
2SIS-PSSP449A	PSA-1	SFGD-M	Safety-Related	9/26/2027
2SIS-PSSP449B	PSA-1	SFGD-M	Safety-Related	9/26/2027
2SWS-PSSP754Y	PSA-10	SFGD-M	Safety-Related	10/11/2023*

* Section 5 of the licensee's request dated April 3, 2020, contains additional detail regarding the service life for these snubbers.

3.2 Applicable Code Edition and Addenda

The applicable Code edition and addition is the ASME Code, Section XI, 2013 Edition.

3.3 Applicable Code Requirement

The IST requirements of the ASME OM Code, as incorporated by reference in 10 CFR 50.55a related to this alternative request are as follows:

- ASME OM Code, Subsection ISTD, paragraph ISTD-5200, states, in part, that "Snubbers shall be tested for operational readiness during each fuel cycle [every 2 years]."

- Paragraph ISTD-5300, "The 10% Testing Sample," and paragraph ISTD-6000, "Service Life Monitoring," in the ASME OM Code, Subsection ISTD, specify sampling and service life monitoring (SLM) requirements for snubbers, respectively.

3.4 Reason for Request

The licensee planned to start the 21st RFO (2R21) at Beaver Valley 2 on April 12, 2020. The licensee reported that the snubbers listed in its request are functionally tested in accordance with the frequency specified in ASME OM Code (2004 Edition through 2006 Addenda), Subsection ISTD, paragraph ISTD-5200, every 2 years. Therefore, these snubbers were scheduled to be functionally tested during the RFO in the spring of 2020.

The licensee stated that on March 13, 2020, the President of the United States declared a national emergency due to the spread and infectious nature of the Coronavirus-2019 (COVID-19) virus and resulting pandemic. The most recent guidance from the Centers for Disease Control and Prevention includes recommendations for social distancing by maintaining approximately 6 feet from other personnel to limit the spread of the virus. On March 28, 2020, the Governor of Pennsylvania issued a stay-at-home order for Beaver County and the surrounding counties of Allegheny and Butler. Furthermore, on March 28, 2020, the Department of Homeland Security identified workers in the nuclear energy sector as essential critical infrastructure workers.

To prevent the spread of COVID-19 and to protect the health and safety of plant personnel while maintaining responsibilities to support critical infrastructure, the licensee intends to reduce the amount of personnel on site, which will pose a hardship for completing the currently planned 2R21 RFO work scope. The licensee has a contingency plan in case some of its workforce becomes unavailable due to the COVID-19 outbreak. The licensee stated that with the current work scope and potential loss of personnel, it may not be able to complete the RFO in a timely manner, which could affect critical infrastructure that is needed during this time.

The licensee submitted the relief request considering the expected hardship of obtaining and maintaining onsite staff sufficient to prepare, perform, and recover from the examination. The licensee stated that the functional testing of the snubbers listed in its request during the spring 2020 refueling outage at Beaver Valley, Unit 2, would represent a hardship during the COVID-19 outbreak. For example, the licensee intended to reduce the amount of personnel on site to prevent the spread of COVID-19 at Beaver Valley, Unit 2. The licensee was also contingency planning in case some of its workforce became unavailable due to the COVID-19 outbreak. Therefore, the licensee asserted that the testing of the specified snubbers at Beaver Valley, Unit 2, during the spring 2020 refueling outage would result in a hardship without a compensating increase in the level of quality and safety in accordance with 10 CFR 50.55a(z)(2).

3.5 Proposed Alternative

The licensee proposed an extension of the IST program testing intervals for the snubbers listed in its request to the next RFO for Beaver Valley, Unit 2, currently scheduled for the fall of 2021.

In its request for a one-time extension of the operational readiness testing for the specified snubbers, the licensee provided information indicating that the service life of those snubbers extends to at least RFO 2R22 in the fall of 2021. The licensee stated that the snubbers with service life expiration dates in the years shortly following RFO 2R22 would receive service life maintenance or visual examinations during RFO 2R21 in the spring of 2020. If maintenance was unsuccessful, the licensee reported that corrective actions would be performed for those snubbers. Further, the licensee stated that based on the Beaver Valley, Unit 2, snubber test history, since 2009, there have been approximately 211 tests of program snubbers with only one snubber not meeting its test criteria, but it was determined to be fully functional in the as-found condition.

3.6 Basis for Use

The licensee stated that there have been no dynamic events or transients during plant operation since the previous RFO that might affect snubber performance. The licensee reported that there was a recent internal operating experience that applied to one large bore steam generator snubber listed in the request that the licensee had addressed in its corrective action program.

Overall, the licensee stated that the snubber population at Beaver Valley, Unit 2, has been operating at a high level of performance for the past 10 years. The licensee asserted that the performance of these snubbers supports extending the one-time operational readiness test interval and provides reasonable assurance that the snubbers are operationally ready to perform their safety functions.

Further, the licensee indicated that SLM activities would be performed during RFO 2R21 in the spring of 2020 to ensure the snubber service life will not be exceeded. The licensee stated that inservice testing of the Beaver Valley, Unit 2, snubbers will resume in alignment with paragraph ISTD-5200 of the ASME OM Code, Subsection ISTD, with sampling performed in accordance with the 10 percent plan contained in ASME OM Code, Subsection ISTD, paragraph ISTD-5300, and the SLM program at Beaver Valley, Unit 2, during RFO 2R22 in the fall of 2021.

3.7 Duration of Proposed Alternative

For request SRR-1, Revision 0, the licensee requested relief to allow a one-time extension of the operational readiness testing interval for the 24 snubbers listed in Table 1 of this safety evaluation at Beaver Valley, Unit 2, during the 2R21 RFO. The licensee stated that it will resume the normal outage examination frequency at the next opportunity, currently expected to be the next RFO (2R22) in fall 2021.

3.8 NRC Staff Evaluation

As incorporated by reference in 10 CFR 50.55a, ASME OM Code (2004 Edition through 2006 Addenda), Subsection ISTD, requires that snubbers shall meet (1) the inservice visual examination requirements in paragraph ISTD-4000, “Specific Examination Requirements”; (2) the inservice operational readiness testing requirements in paragraph ISTD-5000, “Specific Testing Requirements”; and (3) the SLM requirements in paragraph ISTD-6000. Paragraph ISTD-5200 requires that snubbers within the scope of the ASME OM Code that have specific inservice operational readiness requirements are required to be functionally tested at least once every 2 years. As a result, the Beaver Valley, Unit 2, snubbers listed in Table 1 of this safety evaluation were required to be functionally tested during RFO 2R21 in the spring of 2020.

In its request, the licensee provided justification that compliance with the requirements in the ASME OM Code, Subsection ISTD, paragraph ISTD-5200, as incorporated by reference in 10 CFR 50.55a to conduct functional testing of specific snubbers at Beaver Valley, Unit 2, during the spring 2020 RFO would result in a hardship without a compensating increase in the level of quality and safety in accordance with 10 CFR 50.55a(z)(2). For example, the licensee indicated that the functional testing of snubbers during the spring 2020 RFO would represent a hardship during this COVID-19 outbreak because the licensee intended to reduce the amount of personnel on site to prevent the spread of COVID-19 at Beaver Valley. The licensee was also contingency planning in case some of its workforce became unavailable due to the COVID-19 outbreak.

In its request, the licensee reported that the snubbers with service life expiration dates in the years shortly following RFO 2R22 would receive service life maintenance or visual examinations during RFO 2R21 in the spring of 2020. If maintenance was unsuccessful, the licensee stated that corrective actions would be performed for those snubbers. Further, the licensee stated that based on the Beaver Valley, Unit 2, snubber test history, since 2009, there have been approximately 211 tests of program snubbers with only one snubber not meeting its test criteria

but was determined to be fully functional in the as-found condition. The licensee stated that there have been no dynamic events or transients during plant operation since the previous RFO that might affect snubber performance. Overall, the licensee demonstrated that the snubber population at Beaver Valley, Unit 2, has been operating at a high level of performance for the past 10 years.

Based on the information described above for the specific snubbers at Beaver Valley, Unit 2, listed in the licensee's request, the NRC staff finds that: (1) snubber population testing during the past 10 years indicates their acceptable historical performance; (2) ongoing inservice visual examination and testing activities have not identified snubber performance concerns, except an operating experience item related to steam generator snubbers that was addressed by the licensee's corrective action program; (3) SLM activities of all snubbers are performed every RFO, and service life maintenance activities will continue as needed; and (4) a hardship existed for certain IST program activities related to these snubbers during RFO 2R21 in the spring of 2020 that would be contrary to the health and safety of plant personnel.

Therefore, the NRC staff finds that the licensee's proposed alternative for a one-time extension of operational readiness testing for the 24 specified snubbers at Beaver Valley, Unit 2, in accordance with 10 CFR 50.55a(z)(2) will provide reasonable assurance that the snubbers will be operationally ready to perform their safety functions until RFO 2R22 in the fall of 2021.

4.0 CONCLUSION

The NRC staff concludes that proposed alternative SRR-1, Revision 0, will provide reasonable assurance that the snubbers at Beaver Valley, Unit 2, listed in the licensee's request are operationally ready to perform their safety functions until RFO 2R22 currently scheduled for the fall of 2021. The NRC staff finds that complying with certain requirements of the ASME OM Code would result in hardship without a compensating increase in the level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all the regulatory requirements set forth in 10 CFR 50.55a(z)(2). Therefore, the NRC authorizes the use of proposed alternative SRR-1, Revision 0, at Beaver Valley, Unit 2, until the next scheduled RFO (2R22) in fall 2021.

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

Principal Contributor: G. Bedi

Date: August 20, 2020

SUBJECT: BEAVER VALLEY POWER STATION, UNIT 2 – ISSUANCE OF RELIEF REQUEST SRR-1, REVISION 0, FROM THE REQUIREMENTS OF THE ASME CODE (EPID L-2020-LLR-0050 [COVID-19]) DATED AUGUST 20, 2020

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