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**Cc:** [Lashley, Phil H](#)  
**Subject:** Beaver Valley Units 1 and 2 - DRAFT Request for Additional Information - Steam Generator Letter (EPID L-2019-LRO-0042)  
**Date:** Thursday, October 08, 2020 10:19:00 AM

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Dear Mr. Penfield,

By letter dated July 28, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20211L853), Energy Harbor Nuclear Corp. submitted the spring 2020 Generic Letter (GL) 95-05 Voltage-Based Alternate Repair Criteria (ARC) and Steam Generator (SG) F Star (F\*) Reports for Beaver Valley Power Station (Beaver Valley), Unit 2. The SG tube inspections were performed during refueling outage 21 (2R21). Pressurized water reactor (PWR) SG tubes form part of the reactor coolant pressure boundary (RCPB).

In Appendix A of Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR), General Design Criteria (GDC) 14, 15, 30, 31, and 32, define requirements for the structural and leakage integrity of the RCPB. As part of the RCPB, the SG tubes must also meet the requirements of 10 CFR 50.55a with respect to inspection and repair requirements of the ASME Code. All PWRs have Technical Specifications (TS) according to 10 CFR 50.36 that include a SG Program with specific criteria for the structural and leakage integrity, repair, and inspection of SG tubes. Beaver Valley, Unit 2 TS Section 5.5.5.2 requires that a SG program be established and implemented to ensure SG tube integrity.

The licensee implemented the voltage-based ARC and the F\* methodology during 2R21, therefore, in accordance with TS Sections 5.6.6.2.2 and 5.6.6.2.4, respectively, they were required to submit a report within 90 days after the initial entry into hot shutdown (MODE 4) following completion of an inspection of the SGs performed in accordance with TS Section 5.5.5.2. To complete its evaluation of the information provided by the licensee regarding implementation of the voltage-based ARC and the F\* methodology during 2R21, the U.S. Nuclear Regulatory Commission (NRC) staff requests the following information.

#### Draft Request for Additional Information

1. The GL 95-05 voltage-based ARC report for 2R20 reported a total of 1,161 (348 in SG-A, 449 in SG-B, and 364 in SG-C) distorted support indications (DSIs) in all three SGs (ADAMS Accession No. ML19035A607). Section 3.1, "2R21 Inspection Results," of the GL 95-05 voltage-based ARC report for 2R21 states that there were 133 (43 in SG-A, 48 in SG-B, and 42 in SG-C) new DSIs identified in 2R21, which results in a total of 1,294 DSIs in all three SGs (1,161 + 133 = 1,294). However, the GL 95-05 voltage-based ARC report for 2R21 reports a total of 1,292 DSIs in all three SGs (390 in SG-A, 495 in SG-B, and 407 in SG-C). Please confirm the total number of DSIs in all three SGs and the number in each SG.
2. Section 3.2, "Voltage Growth Rates," of the GL 95-05 voltage-based ARC report for 2R21 states that "Growth is determined when the same indication can be identified in two successive inspections. Since there can be new indications in one outage, the number of indications for which growth can be defined is less than the number of indications detected." As previously stated, the GL 95-05 voltage-based ARC report for 2R21 reported 407 DSIs in SG-C (this number may change based on Question 1). However, Table 3-6, "Voltage Growth Cumulative Distributions," of the same report

shows 409 indications with growth and Table 3-7 shows 364 indications with growth. Please confirm the number of indications with growth for SG-C, the number that was used for the growth analyses, and, if necessary, discuss any impacts this may have had on the results of the growth analyses.

3. In the GL 95-05 voltage-based ARC report for 2R21, the third sentence in the fourth paragraph of Section 2, "Summary and Conclusions," states that "SG-B is predicted to be the limiting SG for leakage while SG-A is predicted to be the limited SG for probability of burst." The last sentence of the third paragraph in Section 1 of the same report indicates that SG-C is the limiting SG for probability of burst. Please confirm which SG is the limiting SG for probability of burst.
4. In the GL 95-05 voltage-based ARC report for 2R21, the third and fourth columns in Table 7-2, "Operational Assessment Leak and Burst Results for EOC [End of Cycle]-22 (POD [Probability of Detection] = 0.6)," refer to EOC-21. Please confirm whether these columns should refer to EOC-21 or EOC-22.

**Please submit your response to this request for additional information by November 9th or request a clarification call (if needed) by October 13, 2020.** If a clarification call is not requested, this e-mail will be considered FINAL RAIs and added to public ADAMS. If you have questions please don't hesitate to contact me.

Thanks!  
-Jenny