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CFR 50.55a

June 30, 2020

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Calvert Cliffs Nuclear Power Plant, Unit 2
Renewed Facility Operating License No. DPR-69
NRC Docket No. 50-318

Subject: Proposed Alternative to Supplemental Position Indication Testing Interval

In accordance with 10 CFR 50.55a, "Codes and standards," paragraph (z)(1), Exelon Generation Company, LLC (Exelon), hereby requests NRC approval of a proposed relief request associated with the Inservice Testing (IST) Program for the Calvert Cliffs Nuclear Power Plant (CCNPP), Unit 2. This request proposes a one-time extension to the 2-year Supplemental Position Indication (SPI) testing frequency for nine Containment Isolation Valves (CIVs) on CCNPP, Unit 2. This alternative testing interval is based on the satisfactory past leakage testing performance required by 10 CFR 50 Appendix J, and the current equipment health of each identified CIV. The performance of each identified CIV has qualified for a testing frequency controlled by 10 CFR 50 Appendix J that exceeds that of the proposed one-time interval extension proposed in this relief request. The past and current performance of each identified CIV and the one-time interval extension bounded by test frequencies in existing regulations provide an acceptable level of quality and safety, equivalent to compliance with ASME Section III requirements.

Exelon requests your review and approval of this request by December 30, 2020.

There are no regulatory commitments contained in this letter.

If you have any questions, please contact Mr. David Neff at (267) 533-1132.

Respectfully,

D. P. Helker

David P. Helker
Sr. Manager - Licensing and Regulatory Affairs
Exelon Generation Company, LLC

Attachment: Relief Request GV-RR-02 Revision 0, One-Time Interval Extension for SPI Testing

cc: Regional Administrator - NRC Region I
NRC Senior Resident Inspector - Calvert Cliffs Nuclear Power Plant
NRC Project Manager - Calvert Cliffs Nuclear Power Plant
S. Seaman - State of Maryland

ATTACHMENT

Relief Request GV-RR-02 Revision 0, One-Time Interval Extension for SPI Testing

EXELON GENERATION COMPANY, LLC
IST PROGRAM – RELIEF REQUEST
Calvert Cliffs Nuclear Power Plant, Unit 2
Proposed Alternative in Accordance with 10 CFR 50.55a(z)(1)
GV-RR-02 Revision 0, One-Time Interval Extension for SPI Testing

1. ASME Code Component(s) Affected:

Pneumatically operated valves (AOV) with remote position indications that were not verified in the open (O) or closed (C) position using a supplemental indication during the Calvert Cliffs Nuclear Power Plant (CCNPP), Unit 2 refueling outage conducted in March 2019. This includes the following Containment Isolation Valves (CIVs) with the unverified open or closed direction noted:

Component	Description	Code Class	Category	Type	Test Direction
2-CVC-505-CV	RCP Seal Bleed Off CIV	2	A	AOV	C
2-CVC-506-CV	RCP Seal Bleed Off CIV	2	A	AOV	C
2-RE-5291-CV	Containment Atmosphere Sample CIV	2	A	AOV	C
2-WGS-2180-CV	Waste Gas from Drain Tank CIV	2	A	AOV	C
2-WGS-2181-CV	Waste Gas from Drain Tank CIV	2	A	AOV	C
2-PS-5464-CV	RCS Common Sample CIV	1	A	AOV	O & C
2-PS-5465-CV	Pressurizer Sample CIV	1	A	AOV	O & C
2-PS-5466-CV	Pressurizer Sample CIV	1	A	AOV	O & C
2-PS-5467-CV	RCS Hot Leg Sample CIV	1	A	AOV	O & C

2. Applicable ASME OM Code Edition:

American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code), 2012 Edition with no addenda.

3. Applicable Code Requirements:

ISTC-3700, *Position Verification Testing,* states: "Valves with remote position indicators shall be observed locally at least once every 2 years to verify that valve operation is accurately indicated. Where practicable, this local observation should be supplemented by other indications such as use of flow meters or other suitable instrumentation to verify obturator position. These observations need not be concurrent. Where local observation is not possible, other indications shall be used for verification of valve operation."

Regulation 10 CFR 50.55a(b)(3)(xi) *OM condition: Valve Position Indication* states: "When implementing paragraph ISTC–3700, "Position Verification Testing," in the ASME OM Code, 2012 Edition through the latest edition and addenda of the ASME OM Code incorporated by reference in paragraph (a)(1)(iv) of this section, licensees shall verify that valve operation is accurately indicated by supplementing valve position indicating lights with other indications, such as flow meters or other suitable instrumentation to provide assurance of proper obturator position for valves with remote position indication within the scope of Subsection ISTC including its mandatory appendices and their verification methods and frequencies."

As required by 10 CFR 50.55a(b)(3)(xi), ISTC-3700 requirements became applicable on July 1, 2018 when the CCNPP IST Program Plan was updated and based on the 2012 Edition of the ASME OM Code. The first SPI testing interval ends on December 31, 2020, based on the 2-year interval that started on July 1, 2018 and with considering the use of the 6-month interval extension allowed by ASME OM Code Case OMN-20, Inservice Test Frequency.

4. Reason for Request:

Pursuant to 10 CFR 50.55a, *Codes and standards*, paragraph (z)(1), an alternative is proposed to the requirement of ASME OM Code ISTC-3700. The basis of the request is that the proposed alternative would provide an acceptable level of quality and safety.

The position verification with supplemental position indication (SPI) requires the valves to be exercised in the open and closed direction and the valve's position verified by other indications such as use of flow meters or other suitable instrumentation to verify obturator position. Currently, there is no method for performing the identified SPI testing for each identified CIVs while the plant is operating. The five valves that need an SPI test in only the closed direction have been successfully SPI tested in the open direction; therefore, relief for the open direction is not needed. A plant shutdown is required to configure the system to provide the conditions where an SPI verification can be performed. The identified CIVs were not tested for position verification with SPI due to a scheduling error during the 2019 CCNPP, Unit 2 refueling outage. Subsequent to the refueling outage, Unit 2 has not been placed in a condition where sufficient SPI testing can be performed.

This relief request proposes a one-time interval extension of four months for the CCNPP Unit 2 SPI testing of the identified CIVs with an end date of April 30, 2021. The SPI testing for the identified CIVs will be conducted at the next opportunity when Unit 2 is in Cold Shutdown. The next scheduled opportunity where the SPI testing can be performed for the identified CIVs is during the next Unit 2 refueling outage currently scheduled to start in March 2021. This extension will avoid a forced plant shutdown of Unit 2 to achieve Cold Shutdown conditions to permit safely stroking the identified CIVs. The proposed relief request will allow the performance of SPI testing at a frequency longer than 2 years but shorter than allowed by the 10 CFR 50 Appendix J Program.

5. Proposed Alternative and Basis for Use:

As a proposed alternative to the 2-year SPI testing frequency required by ISTC-3700, CCNPP proposes a four-month extension to the current SPI testing interval. This alternative testing interval is based on the satisfactory past leakage testing performance and the current equipment health of each identified CIV.

Regulation 10 CFR 50, Appendix J, describes an NRC-required testing program which is more rigorous than that applied for SPI testing, since 10 CFR 50, Appendix J also applies leak rate requirements to valves. Regulation 10 CFR 50, Appendix J test periods are performance-based. Valves with consistent, acceptable performance qualify for period extension up to 75 months. Valves must pass three consecutive as-found leakage tests to

qualify for a 75-month test period. Valves must pass two consecutive as-found leakage tests to qualify for a 60-month test period. A valve passes its test when it exhibits leakage below the assigned administrative limit.

Regulation 10 CFR 50, Appendix J, states:

> The purposes of the tests are to assure that (a) leakage through the primary reactor containment and systems and components penetrating primary containment shall not exceed allowable leakage rate values as specified in the technical specifications or associated bases; and (b) periodic surveillance of reactor containment penetrations and isolation valves is performed so that proper maintenance and repairs are made during the service life of the containment, and systems and components penetrating primary containment.

This statement documents the 10 CFR 50, Appendix J purpose in validating a component's ability to perform as designed. Valves are subject to strict leakage requirements to assure performance of the overall containment structure. Valves that do not perform acceptably receive maintenance to restore performance. Performance is validated with follow-up leakage testing to provide assurance that maintenance is effective and valve performance is satisfactory. These requirements necessitate licensees to demonstrate they are effectively protecting the public health and safety by maintaining plant equipment to the specifications established by plant design and the technical specifications. CCNPP conforms to the requirements of 10 CFR 50, Appendix J, as described in Exelon Corporate Procedure ER-AA-380, Primary Containment Leakrate Testing Program.

Exelon site testing procedures require valve seat leakage to be accurately measured and limited to a specific leakage value to be eligible for extended frequency testing. Regulation 10 CFR 50.55a(b)(3)(xi) requires verification of indications that provide assurance of proper obturator position and drives licensees to obtain evidence of gross flow or closure. A valve could provide indication of proper obturator position yet leak without detection under only an SPI test. This condition is precluded by 10 CFR 50, Appendix J, test requirements which specifically quantifies valve leakage. The requirements of Appendix J seat leakage testing are rigorous and, therefore, satisfy closed verifications meeting 10 CFR 50.55a(b)(3)(xi).

Each identified CIV in this relief request has either two or three consecutive satisfactory as-found leakage tests and has qualified for an extended test period in accordance with the Appendix J Program. The occurrence of the last performed and next required Appendix J leakage test for each CIV is provided in the table below. The performance of each identified CIV has qualified for a testing frequency that exceeds (longer than) that of the proposed one-time interval extension proposed in this relief request. A review of the current material condition for the identified CIVs has confirmed no deficiencies that affect the ability of the CIVs to perform their safety function. The identified CIVs are globe valves manufactured by Masoneilan or Valtek, and there are no known generic design problems that would affect operation of these valves.

Component	Last Appendix J Test	Performance Based Interval (Months)	Next Required Appendix J Test
2-CVC-505-CV	March 2017	60	March 2022
2-CVC-506-CV	March 2017	60	March 2022
2-RE-5291-CV	March 2017	60	March 2022
2-WGS-2180-CV	March 2017	60	March 2022
2-WGS-2181-CV	March 2017	60	March 2022
2-PS-5464-CV	March 2017	60	March 2022
2-PS-5465-CV	March 2015	75	June 2021
2-PS-5466-CV	March 2015	75	June 2021
2-PS-5467-CV	March 2017	60	March 2022

The corresponding Appendix J testing procedures will be used to satisfy the SPI testing for the identified CIVs in this RR. Additional procedure steps were added where needed to perform SPI testing in the open direction. Valves that receive seat leakage testing are held to a higher standard of testing and maintenance compared to valves outside of this population. Based on the additional testing requirements and focus on valve performance for valves with seat leakage requirements, performing the open SPI test at the same frequency as the seat leakage test provides an acceptable level of quality and safety. Performing SPI testing at a frequency longer than 2 years but shorter than the Appendix J Program for the identified CIVs provides an acceptable level of quality and safety for the components regulated by the Appendix J Program requirements based on past performance and current valve material condition.

The SPI testing for the identified CIVs will be conducted at the next opportunity when Unit 2 is in Cold Shutdown. Any component degradation identified prior to the next outage will be evaluated per the Corrective Action Program for operability concerns and compliance with the IST Program and Technical Specifications. The next scheduled opportunity where the SPI testing can be performed for the identified CIVs is during the next Unit 2 refueling outage currently scheduled to start in March 2021.

The identified CIVs have demonstrated exceptional seat leakage performance which has allowed them to be leak tested on an extended frequency. The historical performance provides assurance of the valves' capabilities to perform their design function within the 4-month SPI interval extension. The past and current performance of each identified CIV and the one-time interval extension bounded by test frequencies in existing regulations provide an acceptable level of quality and safety, equivalent to compliance with ASME Section III requirements.

6. Duration of Proposed Alternative:

The proposed alternative is a one-time interval extension of four months for the CCNPP Unit 2 SPI testing of the identified CIVs, with an end date of April 30, 2021.

7. Precedent:

Letter from J. L. Dixon-Herrity (NRC) to R. S. Bement (Arizona Public Service Company), "Palo Verde Nuclear Generating Station, Units 1, 2, and 3 – Relief Request VRR-01 for Use of the Proposed Alternative in Lieu of the Inservice Testing Requirements of the American Society of Mechanical Engineers Code of Operations and Maintenance of Nuclear Power Plants (EPID L-2019-LLR-0093)," dated November 13, 2019 (ML19310F679).

8. References:

None