VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

November 16, 2021

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Serial No.: 21-281
NRA/ENC: R0
Docket Nos.: 50-338
50-339
License Nos.: NPF-4
NPF-7

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION ENERGY VIRGINIA)
NORTH ANNA POWER STATION UNITS 1 AND 2
PROPOSED ALTERNATIVE TO IMPLEMENT ASME OM CODE CASE OMN-28

In accordance with 10 CFR 50.55a, "Codes and Standards," paragraph (z)(1), Virginia Electric and Power Company (Dominion Energy Virginia) requests NRC approval to implement Code Case OMN-28, "Alternative Valve Position Verification Approach to Satisfy ISTC-3700 for Valves Not Susceptible to Stem-Disk Separation," in its entirety, at North Anna Power Station (NAPS), Units 1 and 2. Dominion Energy Virginia proposes to implement Code Case OMN-28 as an alternative to the requirements in the American Society of Mechanical Engineers (ASME) *Operation and Maintenance of Nuclear Power Plants* (OM Code), 2012 Edition, paragraph ISTC-3700, as supplemented by 10 CFR 50.55a(b)(3)(xi), for specified valves in each unit's updated IST Program on the basis that the alternative provides an acceptable level of quality and safety.

Pursuant to 10 CFR 50.55a(z), the proposed alternative requires NRC review and approval before implementation. Dominion Energy Virginia requests NRC approval of this request by March 24, 2022.

If you have any questions or require additional information, please contact Erica N. Combs at (804)-273-3386.

Sincerely,

Mark D. Sartain

Vice President – Nuclear Engineering & Fleet Support
Virginia Electric and Power Company (Dominion Energy Virginia)

Attachment: Relief Request V-2: Alternative Request to Implement Code Case OMN-28

Commitments made in this letter: None

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North Anna Power Station

Serial No.: 21-281
Docket Nos.: 50-338/50-339

ATTACHMENT

Relief Request V-2:
Alternative Request to Implement Code Case OMN-28

North Anna Power Station Units 1 and 2
Virginia Electric and Power Company
(Dominion Energy Virginia)

Relief Request V-2: Alternative Request to Implement Code Case OMN-28

In Accordance with 10 CFR 50.55a(z)(1)
Alternative Provides an Acceptable Level of Quality and Safety

1. ASME Code Component(s) Affected

The valves covered by Code Case OMN-28, "Alternative Valve Position Verification Approach to Satisfy ISTC-3700 for Valves Not Susceptible to Stem-Disk Separation," are those stem-disk separation non-susceptible valves with remote position indication within the scope of Subsection ISTC of the American Society of Mechanical Engineers (ASME), *Operation and Maintenance of Nuclear Power Plants* (OM Code), 2012 Edition, including its mandatory appendices and their verification methods and frequencies, in accordance with regulatory requirements.

The specific valves requiring position indication testing (PIT) in accordance with paragraph ISTC-3700 are located in each unit's inservice testing (IST) program plan for pumps and valves, updated for the fifth 10-year interval and submitted to the NRC on January 22, 2020. [ADAMS Accession No. ML20028D492].

2. Applicable ASME OM Code Edition

The Code of record for North Anna Power Station (NAPS), Units 1 and 2, is the ASME OM Code, 2012 Edition. The current IST interval and Program Plan information is listed below:

Unit	IST Interval	Start of Interval	End of Interval	IST Program Plan Submittal Date and ADAMS Accession No.
1	5th	December 15, 2020	December 14, 2030	January 22, 2020 ML20028D492
2	5th	December 15, 2020	December 14, 2030	

3. Applicable Code Requirements

ISTC-3700, "Position Verification Testing," states:

> *Valves with remote position indicators shall be observed locally at least once every 2 yr 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. Position verification for active MOVs shall be tested in accordance with Mandatory Appendix III of this Division.

ISTC-3700 is supplemented by 10 CFR 50.55a(b)(3)(xi), "OM Condition: Valve Position Indication," which 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.

4. Reason for Request

For valves within the scope of Subsection ISTC, 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. For valves that are not susceptible to stem-disk separation, Code Case OMN-28 has been determined to satisfy the valve SPI requirements in paragraph ISTC-3700. Code Case OMN-28 revises the periodicity of required SPI from every two (2) years to every 12 years. The revised periodicity is advantageous, allowing for greater flexibility in maintenance scheduling for valves requiring position verification with SPI.

5. Proposed Alternative and Basis for Use

As an alternative to the SPI requirements of ISTC-3700, Virginia Electric and Power Company (Dominion Energy Virginia) proposes to implement Code Case OMN-28 on the basis that it provides an acceptable level of quality and safety in accordance with 10 CFR 50.55a, "Codes and Standards," paragraph (z)(1).

Valves covered by this Code Case are those stem-disk separation non-susceptible valves with remote position indication within the scope of Subsection ISTC including its mandatory appendices and their verification methods and frequencies, in accordance with regulatory requirements. To categorize a valve as not susceptible to

stem-disk separation, the valve shall have a documented justification that the stem-disk connection is not susceptible to separation based on the internal design, service conditions, applications and evaluation of the stem-disk connection using plant-specific and industry operating experience, and vendor recommendations as outlined in Electric Power Research Institute (EPRI) Technical Report 3002019621, "Susceptibility of Valve Applications to Failure of the Stem-to-Disk Connection."

Valves with remote position indicators that are not susceptible to stem-disk separation shall be verified to accurately represent valve operation as discussed in Section 1.4, "Position Verification Testing Requirements for Valves Not Susceptible to Stem-Disk Separation" of the Code Case.

Other valves in the IST program with remote position indication not satisfying the scope and provisions of this Code Case shall meet the valve position verification requirements in ASME OM Code, Subsection ISTC-3700, and in accordance with regulatory requirements.

Code Case OMN-28 has been approved for use by ASME and no deviations from the Code Case are being proposed.

6. Duration of Proposed Alternative

The proposed alternative applies to the remainder of the fifth 10-year IST interval for NAPS, Units 1 and 2, ending December 14, 2030.

7. Precedent

A similar request was approved by the NRC in the following safety evaluation:

- Letter from S. P. Wall (NRC) to D. P. Rhoades (Exelon), "Safety Evaluation by the Office of Nuclear Reactor Regulation Proposed Alternative to Use ASME OM Code Case OMN-28 Braidwood Station, Units 1 and 2, Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Clinton Power Station, Unit No. 1, Limerick Generation Station, Units 1 and 2, Nine Mile Point Nuclear Station, Units 1 and 2, Peach Bottom Atomic Power Station, Units 2 and 3, R.E. Ginna Nuclear Power Plant, Exelon Generation Company, LLC, Docket Nos. STN 50-456, STN 50-457, 50-317, 50-318, 50-461, 50-352, 50-353, 50-220, 50-410, 50-277, 50-278, and 50-244," dated September 3, 2021. [ADAMS Accession No. ML21230A206]