WEB-BASED PROPOSED ALTERNATIVE SUBMISSION 10 CFR 50.55a(z)(1)

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Project Title:
10 CFR 50.55a Request Associated with the Monticello Sixth Inservice Testing Ten-Year Interval OMN-28 (L-MT-22-007)

Proposed Alternative Number or Identifier:
VR-08

Request Type:
10 CFR 50.55a(z)(1)

Inservice Inspection (ISI) or Inservice Testing (IST)
Inservice Testing (IST)

Requested Completion Date:
February 28, 2023

Brief Description of Proposed Alternative
Northern States Power Company, a Minnesota corporation, doing business as Xcel Energy (hereafter 'NSPM'), hereby requests NRC authorization of this 10 CFR 50.55a request to support the implementation of the sixth IST ten-year interval for Monticello Nuclear Generating Plant (MNGP). Proposed Relief Request VR-08 requests to adopt ASME Code Case OMN-28, 'Alternative Valve Position Verification Approach to Satisfy ISTC-3700 for Valves Not Susceptible to Stem-Disk Separation'. This submittal makes no new commitments and no revisions to existing commitments.

Proposed Duration of Alternative (in terms of ISI/IST Program Interval with Start and End Dates):
This request, upon approval, will be applied to the MNGP sixth IST ten-year interval starting October 1, 2022, and is scheduled to end May 31, 2032.

Applicable ASME Code Requirements
ISTC-3700, 'Position Verification Testing', states that valves with remote position indicators shall be observed locally at least once every two 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. Position verification for active Motor Operated Valves (MOVs) shall be tested in accordance with Mandatory Appendix III, 'Preservice and Inservice Testing of Active Electric Motor-Operated Valve Assemblies in Water-Cooled Reactor Nuclear Power Plants', of this Division.Mandatory Appendix III, subparagraph III-3300, 'Inservice Test', (e) states that remote position indication shall be verified locally during inservice testing or maintenance activities.10 CFR 50.55a(b)(3)(xi) imposes the following ASME OM condition for use of the 2012 or later editions of the OM Code for 'Valve Position Indication': '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'.

Applicable American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPV Code), or ASME Operation and Maintenanceâ€¯of Nuclear Power Plants (OM Code), Edition and Addenda

American Society of Mechanical Engineers (ASME) OM Code, Operation and Maintenance of Nuclear Power Plants, 2017 Edition with no Addenda.

Current ISI or IST Program Interval Number and Start/End Dates

MNGP is currently on its fifth IST ten-year interval that is scheduled to end on September 30, 2022. The MNGP sixth IST ten-year interval begins on October 1, 2022.

Applicable ASME Code Components and/or System Description

The valves covered and affected by this 10 CFR 50.55a(z)(1) alternative are those valves equipped with remote position indication that have been determined to be “stem-disk separation non-susceptible valve(s)” as defined in ASME Code Case OMN-28, “Alternative Valve Position Verification Approach to Satisfy ISTC-3700 for Valves Not Susceptible to Stem-Disk Separation”.

The tables below provide the list of valves that are within the scope of Alternative Request OMN-28 (Note 1)

MOVs, Motor Operated Valves

Component ID	Component ID	Component ID	Component ID
MO-1426	MO-2015	MO-2068	MO-2-53A
MO-1751	MO-2020	MO-2071	MO-2-53B
MO-1752	MO-2021	MO-2075	MO-3502
MO-1753	MO-2022	MO-2076	MO-4085A
MO-1754	MO-2023	MO-2078	MO-4085B
MO-2002	MO-2029	MO-2096	MO-4086
MO-2003	MO-2030	MO-2100	MO-4229
MO-2006	MO-2032	MO-2101	MO-4230
MO-2007	MO-2033	MO-2102	MO-1986
MO-2008	MO-2034	MO-2106	MO-1987
MO-2009	MO-2035	MO-2107	MO-1988
MO-2010	MO-2036	MO-2373	MO-1989
MO-2011	MO-2061	MO-2374	MO-1741
MO-2012	MO-2062	MO-2397	MO-1742
MO-2013	MO-2063	MO-2398	MO-1749
MO-2014	MO-2067	MO-2407	MO-1750

MV, Manual Valves

Component ID
CS-13-1
CS-13-2
RHR-6-1
RHR-6-2

AOVs, Air Operated Valves

Component ID	Component ID	Component ID	Component ID
CV-3-32A	AO-2-80A	AO-2382E	CV-3311
CV-3-32B	AO-2-80B	AO-2382F	CV-3312
CV-3-32C	AO-2-80C	AO-2382G	CV-3313
CV-3-32D	AO-2-80D	AO-2382H	CV-3314
CV-3-33A	AO-2-86A	AO-2382K	CV-2371
CV-3-33B	AO-2-86B	AO-2383	CV-2372
CV-3-33C	AO-2-86C	AO-2386	CV-2082A
CV-3-33D	AO-2-86D	AO-2387	CV-2104
CV-2046A	AO-2377	AO-2896	CV-2790
CV-2065	AO-2378	AO-4539	CV-2791
CV-1478	AO-2379	AO-4540	CV-1994
CV-7956	AO-2380	CV-2384	CV-1995
AO-2541A	AO-2381	CV-2385	CV-1996
AO-2541B	AO-2382A	CV-3267	CV-1997
AO-2561A	AO-2382B	CV-3268	CV-1728
AO-2561B	AO-2382C	CV-3269	CV-1729

Note 1: OMN-28 may be applied to all valves in the IST program that meet OMN-28 requirements in the future.

Reason for Request

In accordance with 10 CFR 50.55a(z)(1), NSPM is requesting approval to adopt ASME OM Code Case OMN-28, "Alternative Valve Position Verification Approach to Satisfy ISTC-3700 for Valves Not Susceptible to Stem-Disk Separation" for those valves that can be defined, categorized, and documented by engineering justification as "stem-disk separation non-susceptible valves(s)".

Proposed NRC amendments to 50.55a(b)(3)(xi) will allow schedule flexibility for valves determined to be not susceptible to stem-disc separation by specifying that position verification testing required by ISTC-3700 may be performed on a 10-year interval (rather than the 2-year interval specified in ISTC-3700) where justification is documented and available for NRC review (Reference 1). Such documentation would be required to demonstrate that the stem-disk connection is not susceptible to separation based on the internal design and evaluation of the stem-disk connection using plant-specific and industry operating experience, and vendor recommendations. This allows design information and performance data to be applied in demonstrating that a valve is not susceptible to stem-disk separation.

The ASME Code committees have prepared Code Case OMN-28, "Alternative Valve Position Verification Approach to Satisfy ISTC-3700 for Valves Not Susceptible to Stem-Disk Separation". This Code Case has not been approved for use in Regulatory Guide 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code, Revision 4, December 2021. This Code Case has been approved by ASME and is listed in the Applicability Index from ASME Codes and Standards, as applicable through the 2020 Edition of the ASME OM Code.

This Code Case mirrors the philosophy and methodology of the proposed NRC modifications to 50.55a(b)(3)(xi) for valves determined to be non-susceptible to stem-disc separation. The Code Case differs in that it proposes a 12-year rather than a 10-year interval. In accordance with 10 CFR 50.55a(z)(1), the relaxation of the prescribed intervals for performing ISTC-3700 supplemental position verification requirements in accordance with the 50.55a(b)(3)(xi) condition would provide an acceptable level of quality and safety for valves meeting the OMN-28 definition of "stem-disk separation non-susceptible valve(s)".

Full Description of Proposed Alternative

In lieu of compliance with ISTC-3700, NSPM proposes to implement the ASME OM 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).

Description of Basis for Use

The 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 verifications methods and frequencies, in accordance with regulatory requirements.

Valves with remote position indication within the scope of ASME OM Code, Subsection ISTA, paragraph ISTA-1100, not satisfying the scope and provisions of this code case shall meet the valve position verification requirements in ASME OM Code, Paragraph ISTC-3700, 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.

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

Code Case OMN-28 was approved for use by the ASME on March 4, 2021.

No deviations from the Code Case are being proposed.

Describe Hardship or Unusual Difficulty
NOT APPLICABLE

Any Additional Information (submission attachments listed here)

NOT USED (No Attachments)

Precedents
Braidwood Station, Units 1 and 2; Calvert Cliffs Nuclear Power Plant, Units 1 and 2; Clinton Power Station, Unit No. 1; Limerick Generating Station, Units 1 and 2; Nine Mile Point Nuclear Station, Units 1 and 2; Peach

Bottom Atomic Power Station, Units 2 and 3; and R.E. Ginna Nuclear Power Plant - Safety Evaluation for Proposed Alternative to Use ASME Code Case OMN-28 (EPID L-2021-LLR-0056), dated September 3, 2021 (ADAMS Accession Number ML21230A206).

References

1. Federal Register / Vol. 86, No. 57 / Friday, March 26, 2021 / Proposed Rules

2. ASME OM Code Case OMN-28, “Alternative Valve Position Verification Approach to Satisfy ISTC-3700 for Valves Not Susceptible to Stem-Disk Separation”.