WEB-BASED PROPOSED ALTERNATIVE SUBMISSION 10 CFR 50.55a(z)(2)

**Submission Date:** 06/26/2025
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**Submission Availability:** Non-Publicly Available
**Licensee:** Northern States Power Company
**Plant Unit(s) and Docket No(s):** Prairie Island 2 ( 05000306 )Prairie Island 1 ( 05000282 )
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**Project Title:**

L-PI-25-032 Prairie Island Nuclear Generating Plant Units 1 and 2 Inservice Testing Proposed Alternative RR-12

**Request Type:**

10 CFR 50.55a(z)(2)

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

Inservice Testing (IST)

**Requested Completion Date:**

June 28, 2025

**Proposed Alternative Number or Identifier:**

IST 5th Interval RR-12

**Brief Description of Proposed Alternative**

Proposed alternative to ISTC Code required quarterly exercise test frequency for Category B motor valves MV-32322 and MV-32329, due to MV-32038 being out of service for repair.

**Proposed Duration of Alternative (in terms of ISI/IST Program Interval with Start and End Dates):**

The proposed duration of the alternative will be until MV-32038 is repaired. MV-32322 and MV-32329 will remain danger tagged and deactivated until repairs are complete or by 9/29/25 (the next quarterly inservice test due date), whichever comes first. The valves will be tested as part of postmaintenance/return to service testing. NSPM expects repairs to MV-32038 to be complete by July 31, 2025.

**Applicable ASME Code Requirements**

ISTC-3510 Exercising Test Frequency
Active Category A, Category B, and Category C check valves shall be exercised nominally every 3 months, except as provided by ISTC-3520, ISTC-3540, ISTC 3550, ISTC-3570, ISTC 5221, and ISTC-5222. Power-operated relief valves shall be exercised once per fuel cycle.

ISTC-3520 Exercising Requirements
ISTC-3521 Category A and Category B
Category A and Category B valves shall be tested as follows:
(a) full- stroke exercising of Category A and Category B valves during operation at power to the position(s) required to fulfill its function(s).

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

ASME OM Code 2004, 2006 Addenda

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

Fifth IST Interval; started December 21, 2014, with the ten-year interval ending December 20, 2024, with planned 12-month extension to December 20, 2025, allowed by ISTC-3120(d).

**Applicable ASME Code Components and/or System Description**

Impacted components:
- MV-32322, Loop A/B Cooling Water Return Header Cross-Over Motor Valve A
- MV-32329, Loop A/B Cooling Water Return Header Cross-Over Motor Valve B

Impacted System: Cooling Water

Valves MV-32322 and MV-32329 are part of the cooling water return headers in the auxiliary building. The headers are provided with an emergency dump valve (MV-32038) to be used in the event that both cooling water return emergency dump lines in the turbine building fail. Each cooling water return header normally discharges to a 30-inch standpipe that discharges to the circulating water system return. If the normal return to circulating water gets blocked, cooling water level in the standpipe rises until it reaches the emergency dump line, which is a passive drain path to grade from the Turbine Building. MV-32038 is a backup to these emergency dump lines, is on a T between MV-32322 and MV-32329, and dumps outside the Auxiliary Building. MV-32038 is motor-operated and controlled, either locally or from the Control Room. MV-32322 and MV-32329 are normally closed and have safety functions:
- In the open position to provide a flow path to the emergency dump to grade in the event of failure of the normal discharge path (manual actuation).
- In the closed position to separate the cooling water return headers (manual actuation).

**Reason for Request**

MV-32322 and MV-32329 are closed and deactivated as part of a clearance boundary in support of repairs on MV-32038, which has been removed from the system for repair activities after its as-found condition was worse than anticipated. The unanticipated as-found condition also extended the time required to complete repairs on the valve.

With MV-32038 removed, opening either MV-32322 or MV-32329 would result in cooling water flow into the auxiliary building that would be beyond reasonable capability to redirect or catch. Testing valves MV-32322 and MV-32329 per ISTC-3510, ISTC-3520, and ISTC-3521 before 0800 CDT on 6/29/25 which is the late date of the required quarterly inservice test presents a hardship without a compensating increase in quality and safety.

**Full Description of Proposed Alternative**

NSPM proposes to defer quarterly testing of the impacted valves until the either post-maintenance testing of the valves following repair of MV-32038 or 9/29/25, whichever comes first. MV-32322 and MV-32329 will remain danger tagged (deactivated) closed until repairs are complete (or alternate test method for the impacted valves is developed) and will be tested per ISTC-3210, ISTC-3520, and ISTC-3521 upon restoration.

**Description of Basis for Use**

Deferral of the completion of testing for the proposed duration will not adversely affect the impacted Motor Valves. Testing prior to the completion of repairs of MV-32038 presents a hardship without a compensating increase in

quality and safety as described herein.

MV-32322 and MV-32329 are Category B, active, Class 3, motor-operated butterfly valves and have had consistent performance under their Inservice Tests and have no adverse trends. During the last quarterly performance of the IST surveillance procedures:
1. MV-32322 had a stroke time open (STO) of 9.5 seconds with a reference range of 7.3 to 11.2 seconds and a limiting stroke time (LST) of 13.5. The stroke time close (STC) of 9.5 seconds with a reference range of 6.8 to 11.2 seconds and a limiting stroke time (LST) of 13.5.The last ten (10) quarterly test were similar in both STC and STO with no trends noted.
2. MV-32329 had a stroke time open (STO) of 9.65 seconds with a reference range of 6.8 to 12.1 seconds and a limiting stroke time (LST) of 14.5. The stroke time close (STC) of 9.68 seconds with a reference range of 6.8 to 12.1 seconds and a limiting stroke time (LST) of 14.5.The last ten (10) quarterly test were similar in both STC and STO with no trends noted.

The performance of inservice testing of MV-32322 or MV-32329 requires repair and reinstallation of MV-32038, which is currently undergoing troubleshooting and repairs or development of an alternate test method. With MV-32038 removed, Motor Valves MV-32322 and MV-32329 must remain closed per the in-place clearance order. Cycling these valves with MV-32038 removed would result in a larger flow of cooling water into the Auxiliary Building than can be reasonably and safely managed in the current configuration.

While a temporary plant modification to procure or manufacture and install a spool piece or blind flange in support of testing MV-32322 and MV-32329 would be possible, doing so prior to the late test due date presents a hardship without a compensating increase in quality and safety. Specifically, a safety-related flange or spool piece would take too long to procure and a non-safety related flange, while available, would require declaring the associated cooling water header inoperable when stroking MV-32322 or MV-32329. Currently, the plant has A-train of safeguards chilled water system (SCWS) inoperable due to an equipment failure, so making a B-train cooling water header inoperable would result in loss of the SCWS safety function and immediate entry into Technical Specification LCO 3.0.3.

**Include Any Additional Information**

N/A

**Precedents**

None

**References**

ASME OM Code 2004, 2006 Addenda
Prairie Island ASME Inservice Testing Program

**Attachments**