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

H. B. Robinson Steam Electric Plant, Unit No. 2
Docket Number 50-261
Renewed Facility Operating License No. DPR-23

Subject: Relief Requests for Inservice Testing Program Plan – Sixth Ten-Year Interval

Ladies and Gentlemen,

Pursuant to 10 CFR 50.55a, Duke Energy Progress, LLC (Duke Energy) is submitting relief requests IST-RR-3, IST-RR-5, IST-RR-7, IST-RR-8, and IST-RR-9 to the NRC for approval at H. B. Robinson Steam Electric Plant, Unit No. 2 (RNP). Duke Energy is seeking approval of the relief requests for use during the sixth ten-year Inservice Testing (IST) program interval, which begins on February 19, 2022.

10 CFR 50.55a(f) requires inservice testing (IST) of American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 pumps and valves. 10 CFR 50.55a(f)(4)(ii) requires that IST programs conducted during successive ten-year inspection intervals following the initial ten-year interval comply with the requirements of the latest edition and addenda of the Code, incorporated by reference in paragraph (b) of 10 CFR 50.55a, eighteen months prior to the start of the ten-year interval, subject to the limitations and modifications listed within paragraph (b) of that section. Therefore, the RNP, Unit No. 2, "Inservice Testing Program Plan - Sixth Ten-Year Interval" will be based on the requirements of the ASME Code for Operation and Maintenance of Nuclear Power Plants (ASME Code), 2017 Edition. Accordingly, the enclosed relief requests are sought from the requirements of the 2017 Edition of the ASME Code.

The relief requests are contained as Enclosures 1-5 of this submittal.

In order to support implementation of the Sixth Ten-Year Interval Inservice Testing Program, Duke Energy requests NRC approval of the enclosed relief requests by December 31, 2021.

This letter contains no new regulatory commitments. Should you have any questions concerning this letter, or require additional information, please contact Art Zaremba, Director – Nuclear Fleet Licensing, at 980-373-2062.

Sincerely,

Ernest J. Kapopoulos, Jr.
Site Vice President

Enclosures:

1. Relief Request IST-RR-3
2. Relief Request IST-RR-5
3. Relief Request IST-RR-7
4. Relief Request IST-RR-8
5. Relief Request IST-RR-9

cc: L.Dudes, USNRC Regional Administrator, Region II
M. Fannon, USNRC Sr. Resident Inspector - RNP
J. Klos, USNRC NRR Project Manager - RNP

Enclosure 1

Relief Request IST-RR-3

10 CFR 50.55a Relief Request Number IST-RR-3
Proposed Alternative
In Accordance with 10 CFR 50.55a(z)(2)
Hardship Without Compensating Increase in Quality and Safety

1. ASME Code Components Affected

Component Identification	Category
IVSW-71, 72, 74 thru 97, and 100A, B, and C (Check Valves)	C

2. Applicable Code Edition and Addenda

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 2017 Edition.

3. Applicable Code Requirement

ISTC-1300, "Valve Categories" defines uniform criteria for assigning valve categories. Category C valves are defined as "valves that are self-actuating in response to some system characteristic, such as pressure (relief valves) or flow direction (check valves) for fulfillment of the required function(s), as specified in para. ISTA-1100."

ISTC-3510, "Exercising Test Frequency" requires Active Category A, Category B, and Category C check valves be exercised nominally every three months, paras. ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221, and ISTC-5222.

ISTC-3522(a), "Category C Check Valves" requires that Category C check valves be exercised or examined in a manner that verifies obturator travel by using methods in ISTC-5221. ISTC-3522(a) also requires each check valve exercise test shall include open and closed tests.

ISTC-3530, "Valve Obturator Movement" states that the necessary valve obturator movement shall be determined by exercising the valve while observing an appropriate indicator, such as indicating lights that signal the required changes of obturator position, or by observing other evidence, such as changes in system pressure, flow rate, level or temperature, that reflects change of obturator position.

ISTC-5221(a), "Valve Obturator Movement" specifies that the required obturator movement during exercise testing be demonstrated by performing both an open and a close test.

ISTC-5221(a)(2), "Valve Obturator Movement" specifies that check valves that have a safety function in only the open direction shall be exercised by initiating flow and observing the obturator has traveled either to the open position or to the position required to perform its intended function(s) and verify closure.

ISTC-5221(c)(2),"Valve Obturator Movement" specifies that full stroke motion of the obturator shall be verified if a sample disassembly examination program is used to verify obturator movement.

ISTC-5222, "Condition Monitoring Program," as an alternative to the testing or examination requirements of paras. ISTC-3510, ISTC-3520, ISTC-3530, ISTC-3550, and ISTC-5221, the Owner may establish a condition monitoring program in accordance with Mandatory Appendix II, "Check Valve Condition Monitoring Program". Section II-4000 of Appendix II,

"Condition Monitoring Activities" specifies that valve obturator movement during applicable test or examination activities be sufficient to determine the bidirectional functionality of the moving parts.

4. Reason for Request

Pursuant to 10 CFR 50.55a(z)(2), relief is requested from the requirements of the ASME OM Code, 2017 Edition, Subsection ISTC 3522(a), ISTC-3530, ISTC-5221(a) , ISTC-5221(a)(2), ISTC-5221(c)(2) and ISTC-5222 that require Category C check valve exercise tests or exams include both open and closed tests (bidirectional functionality).

Specifically, relief is requested from the requirements of ISTC to verify closure and from the alternative requirements of Appendix II to verify bidirectional functionality. The check valves will be forward flow tested and closure verification will not be performed, as previously approved for the Fifth Inservice Testing Interval (see Section 7, Precedents).

5. Proposed Alternative and Basis for Use

These 3/8 inch penetration check valves in the Isolation Valve Seal Water System (IVSW) system have no safety function in the closed direction and are required to open in order to provide seal water to selected containment penetrations during a Design Basis Accident (DBA). The IVSW system operates to limit the release of fission products should leakage occur; however, no credit is actually taken for its operation when calculating off site accident dose. The system has been formally accepted as a qualified seal water system pursuant to 10 CFR 50 Appendix J requirements. IVSW is maintained at a minimum pressure of 1.1 times the peak accident pressure related to the design basis loss of coolant accident. As such, the design and qualification of the system eliminates the need for these valves to close during a DBA in the unlikely event that closure is required.

Disassembly to verify obturator closure or modifications to facilitate inservice testing for closure is impractical based on the large number of valves requiring verification and the insignificance associated with their failure to close. Disassembly may also lead to maintenance-induced errors associated with reassembly. The small size and construction of these valves prohibits the ability to perform partial disassembly / inspection in a manner representative of its inservice condition (e.g., valve removal and decontamination activities could alter disc position). IVSW is a standby system that is typically operated during refueling outages to facilitate testing. Based on infrequent use, the valve obturator exhibits minimal wear. Bi-directional check valve testing was adopted to counter the effects of a faulty test strategy associated with the inability to detect a detached valve disc. Specifically, a satisfactory forward flow check valve test could be completed when the valve disc is actually detached and laying in the bottom of the valve body. Based on the design and materials of construction associated with these check valves, disc failure with subsequent migration into associated systems is not likely. The size of the disc exceeds the inner diameter of the valve outlet. It is likely that failure of the valve in this manner would be detected by the current test method which, is performed at refueling outages in conjunction with required Appendix J leak rate testing of the associated containment penetration. Forward flow testing at a refueling interval is warranted since the test boundary must be depressurized to perform leak rate testing. Depressurization of the boundary is assured during the leak rate test conducted at refueling intervals. The location of these valves would make testing, inspection or examination for closure inconsistent with ALARA principles.

H. B. Robinson Steam Electric Plant (Robinson Nuclear Plant, RNP), Unit No. 2 began implementing an Appendix II Program on 2/19/2002; however, the IVSW check valves are not included in the Check Valve Condition Monitoring (CVCM) program because the small size and ball shape design of the disc would make dimensional measurements relatively difficult to obtain on a consistent basis. Consequently, effective condition monitoring to improve or optimize the health of the check valve would also be very difficult.

Based on the design and qualification of this system, compliance with the Code requirement as written would result in an unusual hardship without a compensating increase in the level of quality and safety.

Proposed Alternative

The 3/8-inch penetration check valves installed in the IVSW system will be tested to the open position at refueling intervals. Closure verification will not be performed.

6. **Implementation Schedule**

This relief will be implemented during the RNP, Unit No. 2, Sixth Ten-Year Inservice Testing Interval for valves required by ASME OM Code, 2017 Edition, Subsection ISTC.

7. **Precedents**

The NRC granted relief to RNP, Unit No. 2 for the Fifth IST Interval via letter dated July 13, 2012. [ML12174A010]

Enclosure 2

Relief Request IST-RR-5

10 CFR 50.55a Relief Request Number IST-RR-5
Proposed Alternative
In Accordance with 10 CFR 50.55a(z)(1)
Alternate Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

All the pumps in the IST Program with vibration reference values of ≤ 0.05 inches per second (ips, in/sec). See Table 1 for the initial list of pumps relief is being requested for to use the alternative requirements of ASME OM Code Case OMN-22. Relief is also requested to use these alternative requirements for other pumps in the IST Program that meet the requirements of Code Case OMN-22 in the future.

Table 1: Initial Scope of IST-RR-5 (Note 1)

Component ID	Pump Description	Group	Type	ASME Class
BA-A Pump	Boric Acid (BA) Transfer Pump 'A'	A	Centrifugal Horizontal Induction Motor	3
BA-B Pump	Boric Acid Transfer Pump 'B'	A	Centrifugal Horizontal Induction Motor	3
DF-B Pump	Diesel Fuel Oil Transfer Pump 'B'	A	Rotary Positive Displacement Induction Motor	3

Note 1: OMN-22 may be applied to all pumps in the IST Program that meet OMN-22 requirements in the future.

Function:

The Table 1 pumps are required to perform a specific function in shutting down the reactor to a safe shutdown condition, maintaining a safe shutdown condition, or in mitigating the consequences of an accident.

2. Applicable Code Edition and Addenda

American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) 2017 Edition.

3. Applicable Code Requirement

ISTB-3300, ‘Reference Values’ paragraph (a) initial reference values shall be determined from the results of testing meeting the requirements of para. ISTB-3100, Preservice Testing, or from the results of the first inservice test.

ISTB-3300, 'Reference Values' paragraph (b) requires that new or additional reference values shall be established as required by para. ISTB-3310, or ISTB-3320, or subpara. ISTB-6200 (c).

ISTB-3300, 'Reference Values' paragraph (f) requires that all subsequent test results shall be compared to these initial reference values or to new reference values established in accordance with para. ISTB-3310, or ISTB-3320, or subpara. ISTB-6200(c).

Table ISTB-5121-1, 'Centrifugal Pump Test Acceptance Criteria' provides the values for the Alert Range and Required Action Range for inservice testing.

Table ISTB-5221-1, 'Vertical Line Shaft Centrifugal Pump Test Acceptance Criteria' provides the values for the Alert Range and Required Action Range for inservice testing.

Table ISTB-5321-1, 'Positive Displacement Pump (Except Reciprocating) Test Acceptance Criteria' provides the values for the Alert Range and Required Action Range for inservice testing.

Table ISTB-5321-2, 'Reciprocating Positive Displacement Pump Test Acceptance Criteria' provides the values for the Alert Range and Required Action Range for inservice testing.

4. Reason for Request

Pursuant to 10 CFR 50.55a(z)(1), relief is requested from the requirements of the ASME OM Code, 2017 Edition, Subsection ISTB. The ASME Code committees have approved Code Case OMN-22, 'Smooth Running Pumps'. This Code Case has not been approved for use in Regulatory Guide 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code, Revision 3, October 2019.

Code Case OMN-22 allows for alternative requirements for use with smooth running pumps in lieu of use of vibration values obtained in the reference value tests. For very low reference values, hydraulic noise and instrument accuracy can represent a significant portion of the reading and affect the repeatability of subsequent measurements. A smooth running pump could be subject to unnecessary increased testing if the measured vibration parameter exceeds an acceptable range based on these very low reference values.

Smooth running pumps have a much lower reference value for stable operation and the ranges for acceptable range and higher levels listed in the Alert Range do not allow for adequate vibration monitoring techniques to be applied to smooth running pumps. Guidelines set forth in Code Case OMN-22, 'Smooth Running Pumps' allow for a very low baseline vibration value with a pump vibration velocity of ≤ 0.050 in/sec when establishing the vibration reference value, which allows for trending of the pump vibration on a much lower scale than what is currently allowed.

ASME OM Code Case OMN-22, 'Smooth Running Pumps' has not been approved by the NRC and a relief request is required for use of this Code Case.

5. Proposed Alternative and Basis for Use

H. B. Robinson Steam Electric Plant (Robinson Nuclear Plant, RNP), Unit No. 2, proposes to utilize the provisions of Code Case OMN-22, 'Smooth Running Pumps'. For those pumps with very low baseline vibration values (≤ 0.050 in/sec), the following vibration velocity criteria shall be applied to any vibration test points qualifying for the use of the 'minimum reference' value:

Acceptable Range: ≤ 0.125 in/sec

Alert Range: > 0.125 in/sec to 0.300 in/sec

Required Action Range: > 0.300 in/sec

Supplemental Monitoring

Pumps that will use the "minimum reference" value for one or more vibration points shall be included in the Owner's Predictive Maintenance (PdM) program. The PdM program shall apply predictive monitoring techniques and perform vibration analysis beyond the trending of vibration levels specified in the ASME OM Code to provide early identification of pump performance issues. The Owner shall determine which PdM Supplemental Monitoring activities will be utilized on the pump.

At a minimum, the Owner shall perform spectral analysis of measured vibration of the applicable pumps. The Owner shall document the conclusion of the PdM performance analysis on the pump test record prior to the subsequent test with a conclusion of acceptable, degrading but acceptable, or unacceptable. Corrective action shall be initiated when an unacceptable trend in performance is identified

Corrective Action

If a measured pump vibration parameter falls within the alert range or the required action range specified above, then the 'Corrective Action' requirements of ISTB-6200 (2017 Ed.) shall be followed. The alert and required action ranges are established in accordance with this Code Case rather than the referenced pump tables.

If a PdM Supplemental Monitoring activity identifies a parameter outside the normal operating range or identifies a trend toward an unacceptable degraded state, action shall be taken to (1) identify and document the condition in the corrective action program (2) increase monitoring to establish the rate of change of the monitored parameter, (3) review component-specific information to identify the degradation cause, (4) develop a plan to remove the pump from service to perform maintenance prior to significant performance degradation, and (5) address potential common cause issues applicable to other pumps based on the results of the analysis of the specific pump performance.

In summary, RNP proposes to test the pumps listed in this request and other pumps in the IST Program that meet the requirements of Code Case OMN-22 in the future by implementing the requirements of ASME OM Code Case OMN-22. The use of OMN-22 requires NRC approval to implement this change since Code Case OMN-22 is not listed in Regulatory Guide 1.192.

Using the provisions of this request would provide adequate detection of component degradation and, would continue to provide reasonable assurance of the operational readiness of affected RNP components. Therefore, compliance with the requirements of ASME OM Code Case OMN-22 would result in an acceptable level of quality and safety pursuant to 10 CFR 50.55a(z)(1).

6. Duration of Proposed Alternative

This relief will be implemented during the RNP, Unit No. 2, Sixth Ten-Year Inservice Testing Interval for pumps required by ASME OM Code, 2017 Edition, Subsection ISTB.

7. Precedents

ML18290A602, Millstone 2 P-02 and Millstone 3 P-03, Smooth Running Pumps, for pumps with measured reference value below 0.05 ips, approved by NRC, November 2018.

ML20199M162 South Texas Project, Units 1 and 2 – Proposed Alternative PRR-01, PRR-02, PRR-03, and PRR-04 To The Requirements of the ASME OM Code (EPIDS L-2020-LLR-0007 to L-2020-LLR-0010), dated July 21, 2020 .

8. References

1. ASME OM Code Case OMN-22, ‘Smooth Running Pumps’

Enclosure 3

Relief Request IST-RR-7

10 CFR 50.55a Relief Request Number IST-RR-7
Proposed Alternative
In Accordance with 10 CFR 50.55a(z)(1)
Alternate Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

Table 1: RNP ASME Class 2 and 3 Relief Valves in a Group of One (1)

Component ID	Description	Category	Class
CC-707	Component Cooling Water (CCW) Surge Tank Relief	Category C	3
CC-948	CCW Surge Tank Vacuum Breaker	Category C	3
CVC-257	Volume Control Tank (VCT) Relief	Category C	3
RHR-706	Residual Heat Removal (RHR) System Relief	Category C	2
SI-857A	Boron Injection Tank to Safety Injection (SI) Test Line Relief	Category C	2
SI-857B	Loop "B" Cold Leg Injection Relief to Pressurizer Relief Tank (PRT)	Category C	2
SI-859	Relief to PRT from SI Test Line	Category C	2
SI-871	Containment Spray Pump Suction Relief	Category C	2
SI-872	Spray Additive Tank (SAT) Relief	Category C	3

2. Applicable Code Edition and Addenda

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 2017 Edition.

3. Applicable Code Requirement

The applicable ASME OM Code edition and addenda for the H. B. Robinson Steam Electric Plant (Robinson Nuclear Plant, RNP), Unit No. 2, Sixth 10-year IST interval is the 2017 Edition with no addenda. RNP is requesting an alternative to the requirements in Appendix I subparagraph I-1350, Test Frequency, Classes 2 and 3 Pressure Relief Valves Except PWR Main Steam Safety Valves, "(a)(2): For valve groups containing only one valve, the valve shall be tested at least every 48 months".

Per I-1350(a)(1) The maximum allowable time between tests for any valve, with the exception of PWR main steam safety valves, shall not exceed 10 yr, starting with initial electric power generation.

4. Reason for Request

RNP proposes to utilize the provisions of Code Case OMN-24. Pursuant to 10 CFR 50.55a, *Codes and Standards*, paragraph (z)(1), an alternative is proposed to ASME OM Code, I-

1350(a)(2) requirements by implementing Code Case OMN-24, "*Alternative Rules for Testing ASME Class 2 and 3 Pressure Relief Valves (For Relief Valves in a Group of One).*" The basis of the request is that the proposed performance based alternative would provide an acceptable level of quality and safety. Also, the requirement within I-1350(a)(2) for a 48 month test interval would be relaxed. The change would remain within compliance of I-1350(a)(1) where the test interval would not exceed 10 years, with the Code Case allowing a six month grace period to coincide with refuel outages.

The ASME Code committees have approved Code Case OMN-24, '*Alternative Rules for Testing ASME Class 2 and 3 Pressure Relief Valves (For Relief Valves in a Group of One).*' This Code Case has not been approved for use in Regulatory Guide 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code, Revision 3, October 2019. 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.

5. Proposed Alternative and Basis for Use

RNP proposes to utilize the provisions of Code Case OMN-24:

a) The relief valve shall be tracked by its plant identification number as provided by its manufacturer or as applied by the Owner.

b) Upon adoption of this Code Case, the initial test interval shall not exceed 48 months since its last set-pressure test. A 12 month period is allowed to complete testing once the relief valve is removed from the system.

c) A relief valve that satisfies the as-found set-pressure test criterion may have its test interval extended by up to 24 months. The test interval shall begin from the date of the as-left set-pressure test for the installed valve.

d) A relief valve that fails the as-found set-pressure test shall have its test interval reduced by 24 months. The minimum required test frequency for this circumstance is a 24 month interval.

e) The test interval for any individual relief valve shall not exceed 120 months except that a six (6) month grace period is allowed to coincide with refueling outages to accommodate extended operation or shutdown periods.

f) The Owner may satisfy testing requirements by installing a pretested valve to replace the valve that had been in service provided that the valve removed from service shall be tested within 12 months of removal from the system.

In summary, RNP proposes an alternative to test the Relief Valves listed in this relief request by implementing the requirements of ASME OM Code Case OMN-24, '*Alternative Rules for Testing ASME Class 2 and 3 Pressure Relief Valves (For Relief Valves in a Group of One)*', as approved by ASME.

Using the provisions of this request would provide adequate detection of component degradation and, would continue to provide reasonable assurance of the operational readiness of affected RNP components. Therefore, compliance with the requirements of ASME OM Code Case OMN-24 would result in an acceptable level of quality and safety pursuant to 10 CFR 50.55a(z)(1).

6. Duration of Proposed Alternative

This relief will be implemented during the RNP, Unit No. 2, Sixth Ten-Year Inservice Testing Interval for valves listed in Table 1 required by ASME OM Code, 2017 Edition, Subsection ISTC.

7. Precedents

Fermi VRR-005 (ML19248C707) Submittal from Fermi, approved October 2019.

8. References

1. Code Case OMN-24, '*Alternative Requirements for Testing ASME Class 2 and 3 Pressure Relief Valves (For Relief Valves in a Group of One)*'

Enclosure 4

Relief Request IST-RR-8

10 CFR 50.55a Relief Request Number IST-RR-8
Proposed Alternative
In Accordance with 10 CFR 50.55a(z)(1)
Alternate Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

Table 1 lists affected components below.

Table 1: Affected Components

Component ID	Description	Category	Class
RC-551A	Pressurizer Relief	C	1
RC-551B	Pressurizer Relief	C	1
RC-551C	Pressurizer Relief	C	1
CC-715	Excess Letdown Heat Exchanger Relief	C	2
CVC-203A	Letdown Orifices Outlet Relief	C	2
CVC-203B	Letdown Orifices Outlet Relief	C	2
RHR-706	RHR System Relief	C	2
SI-857A	Boron Injection Tank to Safety Injection Test Line Relief	C	2
SI-857B	Loop 'B' Cold Leg Injection Relief to Pressurizer Relief Tank Relief	C	2
SI-858A	Safety Injection Accumulator 'A' Relief	C	2
SI-858B	Safety Injection Accumulator 'B' Relief	C	2
SI-858C	Safety Injection Accumulator 'C' Relief	C	2
SI-859	Safety Injection Relief Valve to Pressurizer Relief Tank from the Safety Injection Test Line	C	2
SI-871	Containment Spray Pump Suction Relief	C	2
SV1-1A	Steam Generator 'A' Safety Relief	C	2
SV1-1B	Steam Generator 'B' Safety Relief	C	2
SV1-1C	Steam Generator 'C' Safety Relief	C	2
SV1-2A	Steam Generator 'A' Safety Relief	C	2
SV1-2B	Steam Generator 'B' Safety Relief	C	2
SV1-2C	Steam Generator 'C' Safety Relief	C	2
SV1-3A	Steam Generator 'A' Safety Relief	C	2
SV1-3B	Steam Generator 'B' Safety Relief	C	2

Table 1: Affected Components (Continued)

Component ID	Description	Category	Class
SV1-3C	Steam Generator 'C' Safety Relief	C	2
SV1-4A	Steam Generator 'A' Safety Relief	C	2
SV1-4B	Steam Generator 'B' Safety Relief	C	2
SV1-4C	Steam Generator 'C' Safety Relief	C	2
CC-707	Component Cooling Water Surge Tank Relief Valve	C	3
CC-722A	Reactor Coolant Pump (RCP) 'A' Thermal Barrier Outlet Relief	C	3
CC-722B	RCP 'B' Thermal Barrier Outlet	C	3
CC-722C	RCP 'C' Thermal Barrier Outlet	C	3
CC-729	Reactor Coolant Pumps Oil Cooler Outlet Relief	C	3
CVC-2080	Charging Pump 'A' Suction Stabilizer Relief	C	3
CVC-2081	Charging Pump 'B' Suction Stabilizer Relief	C	3
CVC-2082	Charging Pump 'C' Suction Stabilizer Relief	C	3
CVC-1118A	Holdup Tank 'A' Relief	C	3
CVC-1118B	Holdup Tank 'B' Relief	C	3
CVC-1118C	Holdup Tank 'C' Relief	C	3
CVC-209	CVC Low Pressure Letdown Relief	C	3
CVC-257	Volume Control Tank Relief	C	3
CVC-283A	Charging Pump 'C' Discharge Relief	C	3
CVC-283B	Charging Pump 'B' Discharge Relief	C	3
CVC-283C	Charging Pump 'A' Discharge Relief	C	3
CVC-382	Reactor Coolant Pump Seal Return Line Relief	C	3
FO-32A	Emergency Diesel Generator 'A' Engine Driven Pump Discharge Relief	C	3
FO-32B	Emergency Diesel Generator 'B' Engine Driven Pump Discharge Relief	C	3
SI-872	Spray Additive Tank Relief	C	3
SW-546	HVH-4 Return Relief	C	3
SW-547	HVH-3 Return Relief	C	3
SW-548	HVH-2 Return Relief	C	3

Table 1: Affected Components (Continued)

Component ID	Description	Category	Class
SW-549	HVH-1 Return Relief	C	3
WD-1621	Waste Gas Decay Tank 'A' Relief Valve	C	3
WD-1622	Waste Gas Decay Tank 'B' Relief Valve	C	3
WD-1623	Waste Gas Decay Tank 'C' Relief Valve	C	3
WD-1624	Waste Gas Decay Tank 'D' Relief Valve	C	3

2. Applicable Code Edition and Addenda

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 2017 Edition.

3. Applicable Code Requirement

Appendix I, subparagraph I-1320, "Test Frequencies, Class 1 Pressure Relief Valves", *(a) 5-Yr Test Interval*. "Class 1 Pressure relief valves shall be tested at least once every 5 yr, starting with initial electric power generation. No maximum limit is specified for the number of valves to be tested within each interval; however, a minimum of 20% of the valves from each group shall be tested within any 24-month interval. This 20% shall consist of valves that have been tested during the current 5-yr interval, if they exist. The test interval for any installed valve shall not exceed 5 yr. The 5-yr test interval shall begin from the date of the as-left set-pressure test for each valve".

Appendix I, subparagraph I-1320, "Test Frequencies, Class 1 Pressure Relief Valves", *(c) Requirements for Testing Additional Valves.* "Additional valves shall be tested in accordance with the following requirements: (1) For each valve tested for which the as-found set-pressure (first test actuation) exceeds the greater of either the plus/minus tolerance limit of the Owner established set-pressure acceptance criteria of subpara. I-1310(e) or ±3% of valve nameplate set-pressure, two additional valves shall be tested from the same valve group. (2) If the as-found set-pressure of any of the additional valves tested in accordance with subpara. (c)(1) exceeds the criteria noted therein, then all remaining valves of that same valve group shall be tested. (3) The Owner shall evaluate the cause and effect of valves that fail to comply with the set-pressure acceptance criteria established in subpara. (c)(1) or the Owner established acceptance criteria for other required tests, e.g., the acceptance of auxiliary actuating devices, compliance with Owner's seat-tightness criteria, etc. Based upon this evaluation, the Owner shall determine the need for testing in addition to the minimum tests specified in subpara. (c) to address any generic concerns that could apply to valves in the same or other valve groups."

Appendix I, subparagraph I-1350, "Test Frequency, Classes 2 and 3 Pressure Relief Valves Except PWR Main Steam Safety Valves", *(a) Test Interval* (1) The maximum allowable time between tests for any valve, with the exception of PWR main steam safety

valves, shall not exceed 10 yr, starting with initial electric power generation. (2) For valve groups containing only one valve, the valve shall be tested at least every 48 months. (3) For valve groups containing more than one valve, a minimum of 20% of the valves from each valve group shall be tested within any 48-month interval. This 20% shall consist of valves that have not been tested during the current 10-yr test interval, if they exist. The test interval shall begin from the date of the as-left set-pressure test for each valve. PWR main steam safety valves shall be tested in accordance with para. I-1320.

Appendix I, subparagraph I-1350, "Test Frequency, Classes 2 and 3 Pressure Relief Valves Except PWR Main Steam Safety Valves", *(c) Requirements for Testing Additional Valves.* Additional valves shall be tested in accordance with the following requirements: (1) For each valve tested for which the as-found set-pressure (first test actuation) exceeds the greater of either the ±tolerance limit of the Owner-established set-pressure acceptance criteria of subpara. I-1310(e) or ±3% of valve nameplate set-pressure, two additional valves shall be tested from the same valve group. (2) If the as-found set-pressure of any of the additional valves tested in accordance with subpara. (c)(1) exceeds the criteria noted therein, then all remaining valves of that same valve group shall be tested. (3) The Owner shall evaluate the cause and effect of valves that fail to comply with the set-pressure acceptance criteria established in subpara. (c)(1) or the Owner established acceptance criteria for other required tests, such as the acceptance of auxiliary actuating devices, compliance with the Owner's seat-tightness criteria, etc. Based upon this evaluation, the Owner shall determine the need for testing in addition to the minimum tests specified in subpara. (c) to address any generic concerns that could apply to valves in the same or other valve groups.

The applicable ASME OM Code edition and addenda for H. B. Robinson Steam Electric Plant (Robinson Nuclear Plant, RNP), Unit No. 2, Sixth 10-year IST interval is the 2017 Edition with no addenda. RNP is requesting an alternative to the requirements in Appendix I, Sections I-1320 and I-1350, of the OM Code 2017 Edition with no Addenda, as it applies to the current maximum 5 year (test to test) interval imposed on Class 1 over pressure devices and Class 2 PWR Main Steam Safety Valves, the 48 month test requirement for Class 2 and Class 3 valve Groups containing one valve in the Group, minimum percentage test requirements for valves in Groups containing more than one valve, and the need to test additional valves in a Group as a result of a set-pressure failure of a valve in the applicable Group.

4. Reason for Request

RNP proposes to utilize the provisions of Code Case OMN-25. Pursuant to 10 CFR 50.55a, *Codes and Standards*, paragraph (z)(1), an alternative is proposed to ASME OM Code, Appendix I, part I-1320(a), I-1320(c), I-1350(a), and I-1350(c) requirements. The basis of this request is that the proposed "performance based" alternative would provide an acceptable level of quality and safety to Appendix I requirements.

OMN-25, '"*Alternative Requirements for Testing Appendix I Pressure Relief Valves.*' provides a "Performance Based" alternative to the referenced ASME OM Code Appendix I requirements for over pressure devices. The concept of valve Groups with periodic percentage sampling requirements (I-1320(a) and I-1350(c)) is eliminated. The mandatory Appendix I, I-1350(a)(2) requirement to test a valve Group consisting of one valve on a recurring 48-month schedule is relaxed if supported by satisfactory test results. Maximum test intervals and rules for extending initial test intervals are provided in the Code Case.

The OM Code Appendix I maximum test interval for ASME Class 1 and ASME Class 2 PWR main steam safety valves of 5 years is increased to 72 months under OMN-25.

OMN-25 also replaces the mandatory test expansion requirements for a set-pressure failure delineated in I-1320(c)(1), I-1320(c)(2), I1350(c)(1), and I-1350(c)(2) of Appendix I. Under OMN-25, over-pressure devices that fail their set-pressure test have their "performance based" test interval reduced.

OMN-25 also modifies the "corrective action" requirements of Appendix I, I-1320(c)(3) and I 1350(c)(3), establishing its own set of requirements. As noted in the above paragraph, mandatory test sample testing expansion is not mandated, valves that fail set-pressure tests have their tests intervals reduced in lieu of test expansion. Repeat failures of serial number tracked valves are required to be evaluated to determine if adjustments are needed to their refurbishment schedule. Under OMN-25, valves on a minimum require test interval that fail a set-pressure test shall either be removed form service or completely refurbished. OMN-25 also requires upon identification of two consecutive failures of set-pressure tests for the same installed plant location, whether it be the same physical (serial numbered) valve or two different valves, the Owner shall conduct an evaluation to determine whether factors related to that location contributed to the set-pressure tests failures.

OMN-25 also requires the Owner to evaluate the cause and effect of valves that fail to comply with their set-pressure acceptance criteria, or Owner established acceptance criteria for other required tests, such as the acceptance of auxiliary actuating devices, compliance with the Owner's seat-tightness criteria, etc. Based on these evaluations, OMN-25 requires the Owner to determine the need for testing in addition to the minimum tests specified in I-3300, as applicable to address any generic concerns that could apply to additional valves.

The ASME Code committees have approved Code Case OMN-25, '"*Alternative Requirements for Testing Appendix I Pressure Relief Valves.*' This Code Case has not been approved for use in Regulatory Guide 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code, Revision 3, October 2019. 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.

5. Proposed Alternative and Basis for Use

RNP proposes to utilize the provisions of Code Case OMN-25:

1. Introduction

This Code Case establishes alternative requirements for testing Pressure Relief Valves that would normally be tested per paragraph I-1320 or I-1350 in Appendix I to the ASME OM Code.

2. Performance Based Test Plan:

a) Each individual valve shall be tracked by its unique serial number as provided by its manufacturer or a unique identification as applied by the owner.

b) Upon adoption of this Code Case, the initial test interval shall be the effective interval between tests that was established under the ASME OM Code Appendix I sample plan requirements. The initial test-to-test interval shall be at least 24 months up to a

maximum of 72 months for Class 1 and at least 48 months up to a maximum of 120 months for Class 2 and 3.

c) The test interval for new valves added to the program scope subsequent to the adoption of this Code Case that have not previously been assigned a test interval as prescribed by ASME OM Code shall not exceed 24 months for ASME Class 1 or 48 months for ASME Class 2 and 3.

d) For each valve tested for which the as-found set-pressure is within the ± tolerance limit of the Owner-established set-pressure acceptance criteria of subparagraph I-1310(e) or ± 3% of valve nameplate set-pressure, the test interval may be extended by up to 24 months.

e) A valve that fails the as-found set-pressure test shall have its test interval reduced by 24 months. The minimum required test interval is at least once every 24 months.

f) The owner may satisfy testing requirements by installing a pretested spare valve to replace the valve that has been in service. Class 1 valves shall be tested before the resumption of electric power generation. Class 2 and 3 valves removed from service shall be tested within 3 months or before resumption of electric power generation, whichever is later.

g) For replacement of a full complement of valves in a group, the valves removed from service shall be tested within 12 months of removal from the system.

h) The test interval for any individual ASME Class 1 or ASME Class 2 PWR Main Steam Safety valve that is in service shall not exceed 72 months.

i) The test interval for any individual ASME Class 2 or 3 valve that is in service shall not exceed 120 months.

3. Corrective Action

a) Valves that fail the as-found set-pressure test shall have their test interval reduced as described by 2(e). Repeated failures of the same serial numbered valve shall be evaluated to determine if adjustments are needed to the refurbishment schedule.

b) If a valve is currently on a minimum required test interval fails its set-pressure test, the valve shall either be permanently removed from service or completely refurbished. If the valve is complete refurbished, performance testing shall be conducted in accordance with I-3400 to qualify repeatable acceptable set-pressure performance prior to re-installation.

c) Upon identification of two consecutive valve failures of set-pressure tests for the same installed plant location, whether it be the same physical (serial number) valve or two different valves, the Owner shall conduct an evaluation to determine whether factors related to the location contributed to the set-pressure test failures.

d) The Owner shall evaluate the cause and effect of valves that fail to comply with their set-pressure acceptance criteria, or the Owner established acceptance criteria for

other required tests, such as the acceptance of auxiliary actuating devices, compliance with the Owner's seat-tightness criteria, etc. Based upon this evaluation, the Owner shall determine the need for testing in addition to the minimum tests specified in I-3300, as applicable to address any generic concerns that would apply to additional valves.

4. Documentation

Corrective actions and changes to the test intervals, with the basis for doing so, shall be documented in the record of tests described by section I-5000 "Records and Record Keeping" in Appendix I to the ASME OM Code.

In summary, RNP proposes to test the Relief Valves listed in this request by implementing the requirements of ASME OM Code Case OMN-25, '*Alternative Requirements for Testing Appendix I Pressure Relief Valves"*, as approved by ASME.

Using the provisions of this request would provide adequate detection of component degradation and would continue to provide reasonable assurance of the operational readiness of affected RNP components. Therefore, compliance with the requirements of ASME OM Code Case OMN-25 would result in an acceptable level of quality and safety pursuant to 10 CFR 50.55a(z)(1).

6. Duration of Proposed Alternative

This relief will be implemented during the RNP, Unit No. 2, Sixth Ten-Year Inservice Testing Interval for valves required by ASME OM Code, 2017 Edition, Subsection ISTC.

7. Precedents

None.

8. References

1. Code Case OMN-25, '*Alternative Requirements for Testing Appendix I Pressure Relief Valves*'

Enclosure 5

Relief Request IST-RR-9

10 CFR 50.55a Relief Request Number IST-RR-9
Proposed Alternative
In Accordance with 10 CFR 50.55a(z)(1)
Alternate Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

Active safety related motor-operated valves (MOVs) that are required by Subsection ISTC of the 2017 Edition of the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) to be tested in accordance with Mandatory Appendix III entitled "Preservice and Inservice Testing of Active Electric Motor-Operated Valve Assemblies in Water Cooled Reactor Nuclear Power Plants."

2. Applicable Code Edition and Addenda

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 2017 Edition.

3. Applicable Code Requirement

The following paragraphs and subparagraphs in Mandatory Appendix III of the ASME OM Code are affected by this Relief Request to adopt ASME OM Code Case OMN-26, 'Alternative Risk-Informed and Margin Based Rules for Inservice Testing of Motor Operated Valves.'

Appendix III, III-3310 "Inservice Test Interval", subparagraph (c): "The maximum inservice test interval shall not exceed 10 yr. MOV inservice tests conducted per para: III-3400 may be used to satisfy this requirement."

Appendix III, paragraph III-3700, "Risk-Informed MOV inservice Testing": Risk-informed MOV inservice testing that incorporates risk insights in conjunction with performance margin to establish MOV grouping, acceptance criteria, exercising requirements and testing interval may be implemented.

Appendix III, Subparagraph III-3721, "HSSC MOVs": "HSSC MOVs shall be tested in accordance with para. III-3300 and exercised in accordance with para. III-3600. HSSC MOVs that can be operated during plant operation shall be exercised quarterly, unless the potential increase in core damage frequency (CDF) and large early release (LER) associated with a longer exercise interval is small"

Appendix III, III-3722 "LSSC MOVs", subparagraph (d): "LSSC MOVs shall be inservice tested at least every 10 yr. in accordance with para. III-3310.

For each of these paragraphs, relief is being requested for alternative treatments described in Section 5 of this Relief Request based on the ASME Board of Nuclear Codes and Standards (BNCS) approved Code Case OMN-26.

4. Reason for Request

In accordance with 10 CFR 50.55a (z)(1), H. B. Robinson Steam Electric Plant (RNP), Unit No. 2, is requesting approval to adopt ASME OM Code Case OMN-26, 'Alternate Risk-Informed and Margin Based Rules for Inservice Testing of Motor Operated Valves', in conjunction with implementing Mandatory Appendix III as part of the 2017 Edition of the OM Code.

Code Case OMN-26 better aligns the inservice test intervals in Mandatory Appendix III to the Risk and Margin Based Licensee Motor Operated Valve (MOV) Programs developed in response to NRC Generic Letter 96-05, "Periodic Verification of Design-Basis Capability of Safety Related Motor-Operated Valves," that have been in effect since 1998. There is no formal technical basis in Appendix III for limiting the maximum inservice test interval to 10 years. Code Case OMN-26 establishes a structured risk-informed approach for determining inservice intervals that provides an acceptable level of quality and safety while providing RNP additional inservice test schedule flexibility.

5. Proposed Alternative and Basis for Use

Proposed Alternative:

RNP proposes to implement the ASME OM Code Case OMN-26 alternative risk and margin informed rules for inservice testing of MOVs in its entirety as described below:

Proposed Alternative to III-3310 (c)

The maximum inservice test interval shall not exceed 10 years unless Risk Informed Inservice Testing applies under the alternative provisions of Code Case OMN-26 to para. III-3700. MOV inservice tests conducted per para. III-3400 may be used to satisfy this requirement.

Proposed Alternative to III-3700

Risk-informed MOV inservice testing that incorporate risk insights in conjunction with MOV Functional Margin to establish MOV groupings, acceptance criteria, exercising requirements and test interval may be implemented.

Proposed Alternative to III-3721

HSSC MOVs shall be tested in accordance with para. III-3300 and exercised in accordance with para. III-3600 while applying the following HSSC MOV Risk insights and limitations.

a) HSSC MOVs that can be operated during plant operation shall be exercised quarterly, unless the potential increase in core damage frequency (CDF) and large early release (LER) associated with a longer exercise interval is small.

b) For HSSC MOVs, the maximum inservice test interval shall be established in accordance with Table 1 of OMN-26, as shown below.

Table 1

HSSC MOV – Margin Based Maximum Inservice Test Intervals

HSSC MOV Functional Margin(D)	Maximum Inservice Test Interval (Years)	If MOV is routinely(A) operated at Design Basis Pressure Conditions- Max Inservice Test Interval (Years) (B)
Low (< 5%)	2	4
Medium (≥ 5% and < 10%)	4	9
High (≥ 10% and < 20%)	9	9
Very High (≥ 20%)	9	12

OMN-26 Table 1 Notes:

(A) Occurs at a periodicity no less frequent than once a refueling outage.

(B) To utilize these intervals, test strokes at or exceeding design basis system conditions must be in the applicable safety function direction(s) and have no applicable operating experience, degradation or diagnostic test anomaly with the potential for adverse impact on MOV functional margin or the capability of the MOV to perform its design basis function.

(D) For the purpose of this code case, the MOV functional margin limits apply to the As-Left MOV condition at the start of the inservice test interval and include applicable test uncertainties and allowance for service-related degradation.

Proposed Alternative to III-3722 (d)

For LSSC MOVs, the maximum inservice test interval shall be established in accordance with Table 2 of OMN-26, as shown below.

Table 2

LSSC MOV – Margin Based Maximum Inservice Test Intervals

LSSC MOV Functional Margin(D)	Maximum Inservice Test Interval (Years)	If MOV is routinely(A) operated at Design Basis Pressure Conditions- Max Inservice Test Interval (Years) (B)
Low (< 5%)	4	9
Medium (≥ 5% and < 10%)	9	12
High (≥ 10% and < 20%)	12	12
Very High (≥ 20%)	12	16(C)

OMN-26 Table 2 Notes:

(A) Occurs at a periodicity no less frequent than once a refueling outage.

(B) To utilize these intervals, test strokes at or exceeding design basis system conditions must be in the applicable safety function direction(s) and have no applicable operating experience, degradation or diagnostic test anomaly with the potential for adverse impact on MOV functional margin or the capability of the MOV to perform its design basis function.

(C) Operating plants that have acquired the requisite test data to satisfy Appendix III, paragraphs III-3310(b) or III-3722(c) must complete one cycle of collecting diagnostic test data at an extended test interval, minimum 9 and maximum 12 years, before extending the test interval by engineering evaluation to the maximum 16-year test interval.

(D) For the purpose of this code case, the MOV functional margin limits apply to the As-Left MOV condition at the start of the inservice test interval and include applicable test uncertainties and allowance for service-related degradation.

Basis for Use:

The requested relief to adopt OMN-26 is in line with the current JOG MOV Periodic Verification Test Program that RNP has implemented at RNP in response to NRC Generic Letter 96-05. Both the JOG MOV PV Program and Code Case OMN-26 provide a Risk-Margin based methodology that establishes limitations for maximum inservice test intervals for MOVs. Code Case OMN-26 simply provides a reasonable extension of this Risk-Informed philosophy based on the lessons learned and accumulated MOV performance data gathered during MOV Performance Verification Testing. Appendix III alone, isolated from OMN-26, provides no such methodology other than a maximum limit for the inservice test interval regardless of Risk or Margin.

The requested allowed maximum inservice test intervals are modest extensions with many of the Low Risk MOVs extending from 10 to 12 years (20% increase). This test interval change can be readily adopted with no loss of MOV performance and/or safety system reliability provided that no adverse performance trends are indicated. RNP's MOV Performance Trending Governance will ensure that only MOV's with good performance history, high stable margins and no adverse diagnostic trends would be candidates for the OMN-26 based inservice test interval extensions.

The requested High Margin Maximum interval changes afforded by OMN-26 align with RNP's desire to adopt a divisional MOV outage testing strategy that reduces the implementation burden of MOV Inservice Testing and allows greater flexibility in optimizing safety system availability. The current six and ten-year JOG Program based High-Margin Maximum Intervals do not support this strategy.

The requested relief reduces the maximum test interval for High Safety Significant Component (HSSC) MOVs allowed by Appendix III from ten years to nine years commensurate with Risk Informed Methodology. Further under this relief request, RNP will treat MOVs currently classified as Medium Risk by the 3-Tier JOG Risk Ranking as High

Risk (HSSC) thereby providing more rigorous periodic verification requirements for the applicable valves especially those with less than high margin.

The requested relief takes credit for routine design basis differential pressure testing (DBDPT) of MOVs to justify extending the maximum Inservice test interval to 12 Years for Very High Margin HSSC MOVs and 16 years for Very High Margin Low Safety Significant Component (LSSC) MOVs.

With the exception of Low Risk MOVs routinely operated at design basis differential pressure (D-P) conditions, Code Case OMN-26 does not allow maximum MOV Inservice Test intervals to exceed ten years unless the associated MOVs are classified as High Margin. Most High Risk MOVs are limited to four years or less for Low/Medium Margins and most Low Risk MOVs are limited to nine years or less for Low/Medium Margins. Code Case OMN-26 provides more rigorous requirements targeted specifically to Low/Medium Margin MOVs than currently allowed under Appendix III. This Risk/Margin approach is in line with accepted Risk-Informed Strategies such as the JOG MOV Periodic Verification Program.

Use of the proposed alternative is expected to result in improved MOV Margins at RNP in order to attain higher margin status to allow use of the extended maximum inservice test intervals permitted by the OMN-26 Code Case.

For the majority of applicable MOVs (i.e., those MOVs not subject to periodic stroking under design basis D-P conditions), the Code Case limited the scope to only High Margin Valves for extending test intervals incrementally beyond current limits:

- Test intervals for High Risk MOVs go from six to nine years (Note: Nine years is aligned to Pressurized Water Reactor nuclear power plants (PWRs) on 18-month refueling cycles)
- Test intervals for Low Risk MOVs go from ten to 12 years (Note: 12 years is aligned for all Boiling Water Reactor nuclear power plants (BWRs) and PWRs with either 18- or 24- month refueling cycles)

The Table below provides a detailed comparison of the Maximum MOV Test Intervals for the JOG MOV Program, Mandatory Appendix III and Code Case OMN-26 that RNP seeks to adopt via this relief request. MOVs identified with **Bold and Underline** type have maximum MOV inservice test intervals exceeding the current Appendix III ten-year limit.

RNP Maximum MOV Test Intervals Based on Code Case OMN-26

	Maximum Inservice Test Intervals (Years)							
	HSSC MOVs				LSSC MOVs			
MOV Margin[8]	JOG MOV PV Program	Appendix III	OMN-26	OMN-26 w/DBDPT (6)	JOG MOV PV Program	Appendix III	OMN-26	OMN-26 w/DBDPT (6)
Low (<5%)	2	10	2 (1,2)	4 (5)	6	10	4 (1,3,5)	9 (5)
Medium (≥5% and <10%)	4	10	4 (1,2,5)	9 (5)	10	10	9 (1,3,5)	**12** (4,5)
High (≥10% and <20%)	6	10	9 (5)	9 (5)	10	10	**12** (4,5)	**12** (4,5)
Very High (≥ 20%)	N/A	10	9 (5)	**12** (4,5)	N/A	10	**12** (4,5)	**16** (4,5,7)
Description ->	Existing Industry Standard	Existing ASME OM Code	Relief Request	Relief Request	Existing Standard	Existing ASME OM Code	Relief Request	Relief Request

Table Notes

1. Code Case Maximum Inservice Test Intervals for all Low/Medium Margin MOVs are less than or equal to current ten-year Appendix III limit. (i.e., Code Case is more conservative than Appendix III for Low/Medium Margin MOVs).
2. Code Case Maximum Inservice Test Intervals for Low/Medium Margin HSSC MOVs are equal to the current JOG MOV PV Program limits of two/four years respectively. (Code Case intervals are aligned with JOG MOV).
3. Code Case Maximum Inservice Test Intervals for Low/Medium Margin LSSC MOVs (four/nine years) are less than the current JOG MOV PV Program limits of six/ten years respectively.
4. The following four categories of MOVs have maximum inservice test intervals that exceed the current ten-year limit:
   a. High Margin, LSSC MOVs. (12 Years)
   b. Very High Margin, HSSC MOVs that are periodically stroked at design basis DP conditions (DBDPT) (12 Years)
   c. Medium Margin, LSSC MOVs that are periodically DBDPT (12 Years)
   d. Very High Margin, LSSC MOVs that are periodically DBDPT (16 Years).
5. Except for Low Margin HSSC MOVs, the Maximum MOV Inservice Test Intervals are optimized for Divisional Outage Scheduling (i.e., 4, 9, 12, 16 years). Nine years is optimal for PWRs restricted to 18 month refueling outages. 12 years is optimal for both PWRs and BWRs and supports both 18-month and 24-month refueling outages.
6. To utilize these intervals, test strokes at or exceeding design basis system conditions must occur at a periodicity no less frequent than once a refueling cycle, must be in

the applicable safety function direction(s), and the MOV must have no applicable operating experience, degradation or diagnostic test anomaly with the potential for adverse impact on MOV functional margin or the capability of the MOV to perform its design basis function. These routine strokes during the inservice test interval are not required to be diagnostically monitored.

7. Operating plants that have acquired the requisite test data to satisfy Appendix III, paragraphs III-3310(b) or III-3722(c) must complete one cycle of collecting diagnostic test data at an extended test interval, minimum 9 and maximum 12 years, before extending the test interval by engineering evaluation to the maximum 16-year test interval.

8. The MOV functional margin limits apply to the As-Left MOV condition at the start of the inservice test interval and includes applicable test uncertainties and allowance for service-related degradation. The inservice test interval is uniquely established for each MOV based on margin and risk classification of the MOV

6. Duration of Proposed Alternative

This relief will be implemented during the RNP, Unit No. 2, Sixth Ten-Year Inservice Testing Interval for valves required by ASME OM Code, 2017 Edition, Subsection ISTC.

7. Precedents

ML20232A171, SER for Proposed Alternative to Utilize Code Case OMN-26 – Braidwood Units 1 and 2, Calvert Cliffs Units 1 and 2, Clinton Power Station, RE Ginna, Limerick Generating Station Units 1 and 2, Nine Mile Point Units 1 and 2, Peach Bottom Units 2 and 3.

8. References

1. Code Case OMN-26, ‘Alternative Risk-Informed and Margin Based Rules for Inservice Testing of Motor Operated Valves’