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REQUEST FOR EXEMPTION FROM CERTAIN REQUIREMENTS OF 10CFR50, APPENDIX J, "PRIMARY REACTOR CONTAINMENT LEAKAGE TESTING FOR WATER-COOLED POWER REACTORS".....

ACKNOWLEDGED

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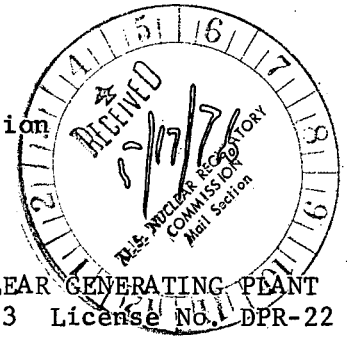
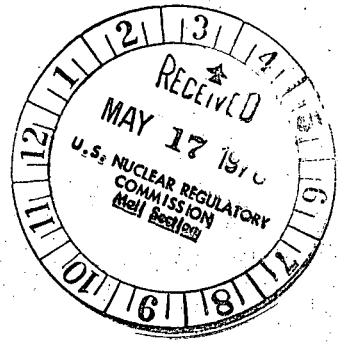
NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

May 5, 1976





Mr. Victor Stello, Director
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Stello:

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Request for Exemption from Certain Requirements of 10CFR50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors"

Ref: (a) Letter from K.R. Goller, USNRC, to L.O. Mayer, NSP, dated August 5, 1975

(b) 10CFR, Section 50.12

Reference (a) directed Northern States Power Company to identify planned actions and formulate a schedule to conform to 10CFR50, Appendix J. On September 19, 1975, NSP submitted a report which outlined a number of areas where Monticello plant design prohibits full compliance with the Regulation. The Monticello plant was designed and constructed several years before the final adoption of Appendix J.

We have carefully reviewed each area where Monticello cannot comply with Appendix J and have under consideration a number of modifications to permit testing in some areas to be accomplished in accordance with the Regulation.

There are also a number of areas where testing cannot be accomplished in accordance with the Regulation and where modifications to permit such testing do not provide any significant improvement in the effectiveness of the containment system or increase the protection now provided to the health and safety of the public. We are requesting exemption from the requirements of 10CFR50, Appendix J in accordance with reference (b) in these instances.

Attached are 3 originals and 37 conformed copies of a request for exemption from certain requirements of 10CFR50, Appendix J. We believe that approval

of these exemptions would not be contrary to law, would not endanger life or property or the common defense and security, and are otherwise in the public interest.

Representatives of NSP are available to discuss this request with you in detail and resolve any specific questions which may arise from this request or any of the other related submittals we have made.

Yours very truly,

L. O. Mayer

L. O. Mayer, PE
Manager, Nuclear Support Services

LOM/DMM/deb

attachment

cc: J.G. Keppler
G. Charnoff
MPCA
Attn: J.W. Ferman
MECCA
Attn: H.J. Vogel
City of St. Paul
Attn: D.L. Ficker
S.J. Gadler

UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT

Docket No. 50-263

License No. DPR-22

Request for Exemption from Certain Requirements of 10CFR50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors"

Northern States Power Company, a Minnesota corporation, by this letter dated May 5, 1976 hereby submits a request for exemption from a number of requirements of 10CFR50, Appendix J. This request is made in accordance with Section 50.12 of 10CFR50.

This request contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

By L. J. Wachter
L J Wachter
Vice President, Power Production
& System Operation

On this 5th day of May, 1976, before me a notary public in and for said County, personally appeared L J Wachter, Vice President, Power Production and System Operation, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Northern States Power Company, that he knows the contents thereof and that to the best of his knowledge, information and belief, the statements made in it are true and that it is not interposed for delay.

Denise E. Branau

DENISE E. BRANAU
NOTARY PUBLIC — MINNESOTA
HENNEPIN COUNTY
My Commission Expires Oct. 10, 1981

MONTICELLO NUCLEAR GENERATING PLANT
DOCKET NO. 50-263

May 5, 1976

REQUEST FOR EXEMPTION FROM CERTAIN REQUIREMENTS OF 10CFR50, APPENDIX J

Pursuant to 10CFR50.12, the holders of Provisional Operating License DPR-22 hereby request the following exemptions from the requirements of Appendix J to 10CFR50.

1. Appendix J Section III.B.1, Type B Testing of Instrument Lines

Exemption Requested

Section III.B.1, under the definition contained in Section II.G.4, can be construed to require testing of instrument lines not equipped with excess flow check valves. No provision for testing these instrument lines was provided in the original plant design.

We ask exemption from this requirement. The affected penetrations are:

X-29E	Drywell Pressure Sensing Line
X-29F	Drywell Pressure Sensing Line
X-32C	Drywell Flood Level Switch Tap
X-50E	Drywell Pressure Sensing Line
X-50F	Drywell Pressure Sensing Line
X-206A - X-206D	Torus Instrumentation
X-209A - X-209D	Torus Instrumentation

Reason for Request

These instrument penetrations are required to sense drywell and torus pressure, temperature, and water level. The small diameter instrument piping outside containment connects to a sealed transducer. In the case of the pressure instruments, safeguard signals are generated.

There is no practicable method of testing these penetrations using Type B testing. Each penetration is tested as part of the Type A test program. The probability of rupture of an associated instrument line outside containment and the resulting leakage to the environs of the post accident containment gaseous atmosphere is low. Manual isolation valves are provided to isolate a leaking instrument.

Any addition or modification (such as isolation valves) to permit testing these penetrations could result in a degradation in performance of their safety related function.

2. Appendix J Section III.B.2, Type B Test Pressure for Drywell Air Lock

Exemption Requested

This section requires all Type B tests to be conducted at Pa (41 psig).

We request exemption from this requirement in the case of the drywell air lock. We ask that we be permitted to use the current 10 psig air lock test pressure specified in the Monticello Technical Specifications.

Reason for Request

The Monticello drywell air lock utilizes two heavy steel single-gasketed doors designed to seal with pressure applied from the drywell side. The only method available to leakage test the air lock is to pressurize the volume between the inner and outer doors. This requires installing temporary bracing on the inner door to assist in holding it closed (test pressure tends to open the door).

We believe that 10 psig is a test pressure which permits a valid and safe test to be performed. Increasing the test pressure to 41 psig increases the force on the inner door thereby reducing the design margin of the temporary bracing. The higher test pressure also leads to an artificially high measured leakage due to increased leakage past the inner door.

3. Appendix J Section III.C.1, Type C Testing of Torus Spray Valves

Exemption Requested

Section III.C.1, under the definition contained in Section II.H.3, can be construed to require testing of the Loop A and Loop B Suppression Chamber Spray valves (Figure 1). No provision for conducting local leakage tests was provided in the original plant design.

We request that these valves be excluded from Type C testing.

Reason for Request

These valves are normally closed, remote-manual motor operated valves. They can be intermittently opened by the Control Room Operator to reduce the temperature and pressure in the torus during the latter stages of a loss of coolant accident. Both valves are located outside of containment.

These lines would be pressurized by the RHR pumps during all stages of the accident. This pressure is well above the peak suppression chamber pressure following a loss of coolant accident preventing any outleakage of the suppression chamber gaseous atmosphere. There is no single active failure which could prevent pressurization of these lines by the RHR pumps.

Since the Torus Spray lines cannot constitute a containment leakage path, testing of the isolation valves in these lines is unnecessary.

4. Appendix J, Section III.C.1, Direction of Test Pressure

Exemption Requested

This section requires that test pressure for Type C testing be applied in the same direction as that when the valve would be required to perform its safety related function, unless it can be determined that the results from the tests for a pressure applied in a different direction will provide equivalent or more conservative results.

We request that we be permitted to test all of the following penetrations, except X-39A and X-39B, with test pressure in the reverse direction. There is no provision for testing these penetrations in the correct direction. We request that we be exempted from the requirement to test penetrations X-39A and X-39B.

Penetration No.	Description of Service	Type Valve
X-18	Floor Drain Sump	Globe
X-19	Equipment Drain Sump	Globe
X-25	Drywell Ventilation	Butterfly
X-26	Drywell Ventilation	Butterfly
X-27D - X-27F	Oxygen Analyzer	Globe
X-39A	Drywell Spray	Gate - Wedge Type
X-39B	Drywell Spray	Gate - Wedge Type
X-41	Coolant Sample	Globe
X-48	Nitrogen Pumpback	Globe
X-205	Torus Ventilation	Butterfly
X-214	Oxygen Analyzer	Globe
X-220	Oxygen Analyzer	Globe

Reason for Request

Test connections at Monticello have generally been provided in the connecting volume between the inboard and outboard isolation valves. The connecting volume is pressurized and the pressure decay rate is measured. These penetrations have no other provision for testing the inboard isolation valve. In this test the inboard valve is pressurized in a direction opposite to the pressure it would experience following an accident.

Except for penetrations X-39A and X-39B, testing of these valves in the reverse direction is permissible under the provisions of Section XI, Subsection IWV, of the ASME Code. In these cases the leak tightness of the valve is not dependent upon direction of pressurization.

The valves in penetrations X-39A and X-39B are normally closed, remote-manual motor operated valves. They can be intermittently opened by the Control Room Operator to reduce the Temperature and pressure in the drywell during the later stages of a loss of coolant accident. X-39A and X-39B would be pressurized by the RHR pumps during all stages of the accident. This pressure is well above the peak drywell accident pressure preventing any outleakage of the drywell gaseous atmosphere. There is no single active failure which could prevent pressurization of these lines. Since these lines cannot constitute a containment leakage path, testing of the isolation valves in these lines is unnecessary (Figure 2).

5. Appendix J Section III.C.1, Type C Testing of Core Spray Testable Check Valves

Exemption Requested

Section III.C.1, under the definition contained in Section II.H.3, can be construed to require testing of the Loop A and Loop B Core Spray Testable Check valves (Figure 3).

We request that these valves be excluded from Type C testing and that the two motor operated gate valves in each line located outside containment be subjected to Type C testing in their place.

Reason for Request

The testable check valve in each Core Spray line was not intended to meet gas leakage acceptance criteria. These valves exhibit moderate leakage when required to seal against a low pressure gas, but are leak tight in their normal environment. These valves consistently fail to meet the individual valve Technical Specification maximum allowable leakage rate. Maintenance performed on them to meet the criteria applied to containment isolation valves involves many hours of work in an area where high radiation and contamination levels prevail. Any improvement in leak tightness is temporary.

In the event of a loss of coolant accident combined with a failure of one core spray pump to start, the potential exists for containment leakage to pass through the Core Spray line associated with the non-operating loop. Barriers to this leakage include the testable check valve located inside containment and two motor operated remote-manual valves located outside containment. In the event of a failure of a Core Spray pump, the two motor operated valves could be closed to eliminate this potential leakage path.

Provisions have been provided in the original plant design to test the two motor operated valves in each Core Spray line. This testing would be conducted in accordance with Appendix J.

All components of the Core Spray System are protected from seismic events and potential missiles. Failure of both motor operated gate valves located outside containment in each Core Spray line is highly improbable.

6. Appendix J Section III.C.1, Type C Testing of Low Pressure Coolant Injection Testable Check Valves

Exemption Requested

Section III.C.1, under the definition contained in Section II.H.3, can be construed to require testing of the Loop A and Loop B Low Pressure Coolant Injection (LPCI) testable check valves (Figure 4).

We request that these valves be excluded from Type C testing and that the two motor operated gate valves in each line located outside containment be subjected to Type C testing in their place.

Reason for Request

The testable check valve in each LPCI supply line was not intended to meet gas leakage acceptance criteria. These valves exhibit moderate leakage when required to seal against a low pressure gas, but are leak tight in their normal environment. These valves consistently fail to meet the individual valve Technical Specification maximum allowable leakage rate. Maintenance performed on them to enable them to meet the criteria applied to containment isolation valves involves many hours of work in an area where high radiation and contamination levels prevail. Any improvement in leak tightness is temporary.

These lines would be pressurized by the RHR pumps in the post accident condition and would supply LPCI flow to the recirculation loops. There is no single active failure which could prevent pressurization of these lines above the calculated peak containment pressure.

It may be necessary, however, in the long term period following an accident to isolate an RHR loop to perform maintenance. Under these conditions, the barriers to containment leakage include the testable check valve located inside containment and two motor operated remote-manual (for containment isolation purposes) valves located outside containment. The two motor operated valves are closed to eliminate a potential leakage path in this situation.

Provisions have been provided in the original plant design to test the two motor operated valves in each LPCI supply line. This testing would be conducted in accordance with Appendix J.

All components of the RHR System are protected from seismic events and potential missiles. Failure of both motor operated valves located outside containment in each LPCI supply line is highly improbable.

7. Appendix J Section III.C.2, Type C Test Pressure for Main Steam Isolation Valves

Exemption Requested

Section III.C.2 requires all Type C tests to be conducted at P_a (41 psig).

We request exemption from this requirement in the case of the Main Steam Isolation Valves (MSIV's). We ask that we be permitted to use the current 25 psig MSIV test pressure specified in the Monticello Technical Specifications.

Reason for Request

Main Steam Isolation Valves are normally tested each refueling outage. After the vessel head has been removed, these valves must be tested by pressurizing the connecting volume between the two valves in each line (Figure 4). The inboard Main Steam Isolation Valve is subjected to test pressure in a direction that is opposite to that existing following an accident. During testing, test pressure tends to unseat the valve and can lead to an invalid measurement. For this reason, the test pressure has been limited to 25 psig for main steam isolation valve testing and the allowable leakage has been stated in terms of a 25 psig test pressure in the current Technical Specifications.

8. Appendix J Section III.D.2, Frequency of Drywell Air Lock Testing

Exemption Requested

Section III.D.2 requires that air locks shall be tested each six months or after each opening, whichever occurs first.

We request that an exemption be granted from the requirement to conduct a Type B test of the air lock after each opening. We ask that we be permitted to perform this testing every three days during periods the drywell air lock is in use while containment integrity is required.

Reason for Exemption

The Monticello air lock does not have double-gasketed door seals. All leakage tests must be conducted by pressurizing the space between the inner and outer doors. This test requires at least four hours to perform.

Overall pressure testing of the air lock every three days is a reasonable surveillance requirement to verify leak tightness when the air lock is actually in use.

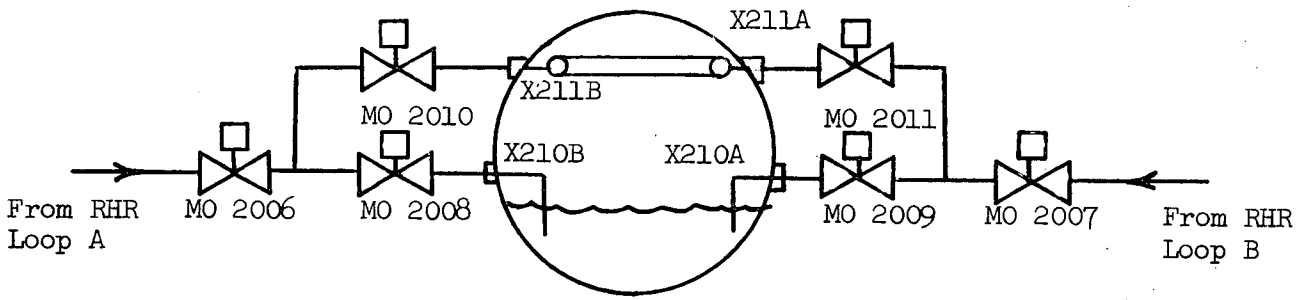


Figure 1. Torus Spray Containment Penetrations

Reference: FSAR Figure 6-2-6

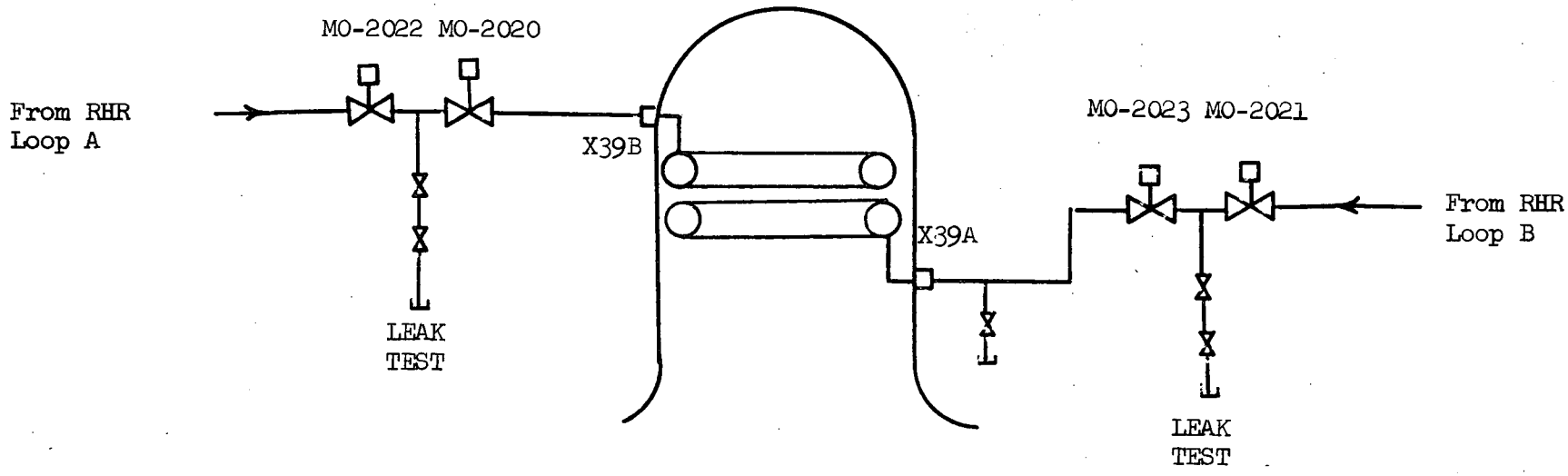


Figure 2. Drywell Spray Containment Penetrations

Reference: FSAR Figure 6-2-6

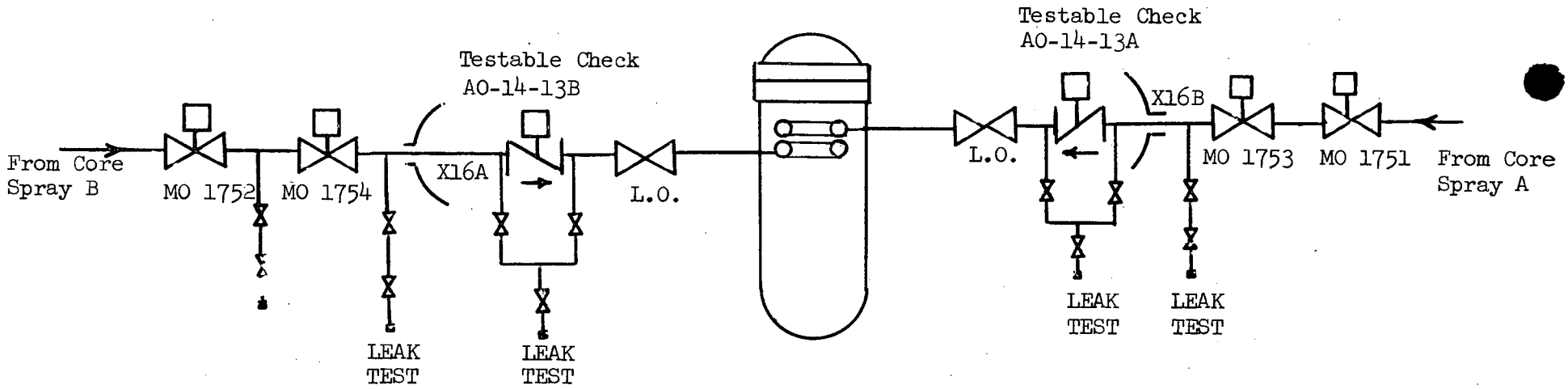


Figure 3. Core Spray Loops A and B

Reference: FSAR Figure 6-2-2

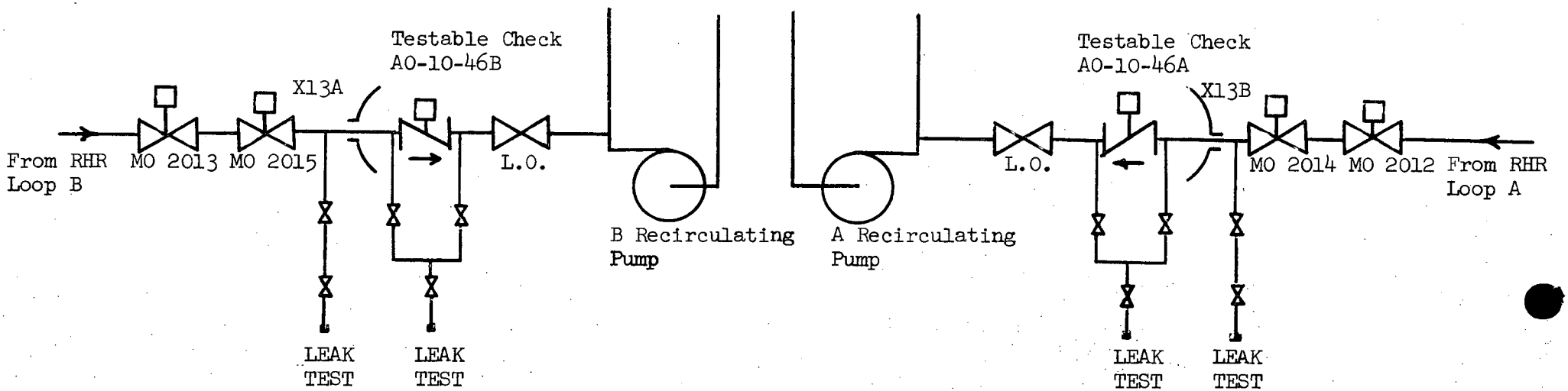


Figure 4. Low Pressure Coolant Injection Loops A and B

Reference: FSAR Figure 6-2-6

STEAM LINE	PENETRATION NO.	INBOARD MSIV	OUTBOARI MSIV
A	X-7A	AO-2-80A	AO-2-86A
B	X-7B	AO-2-80B	AO-2-86B
C	X-7C	AO-2-80C	AO-2-86C
D	X-7D	AO-2-80D	AO-2-86D

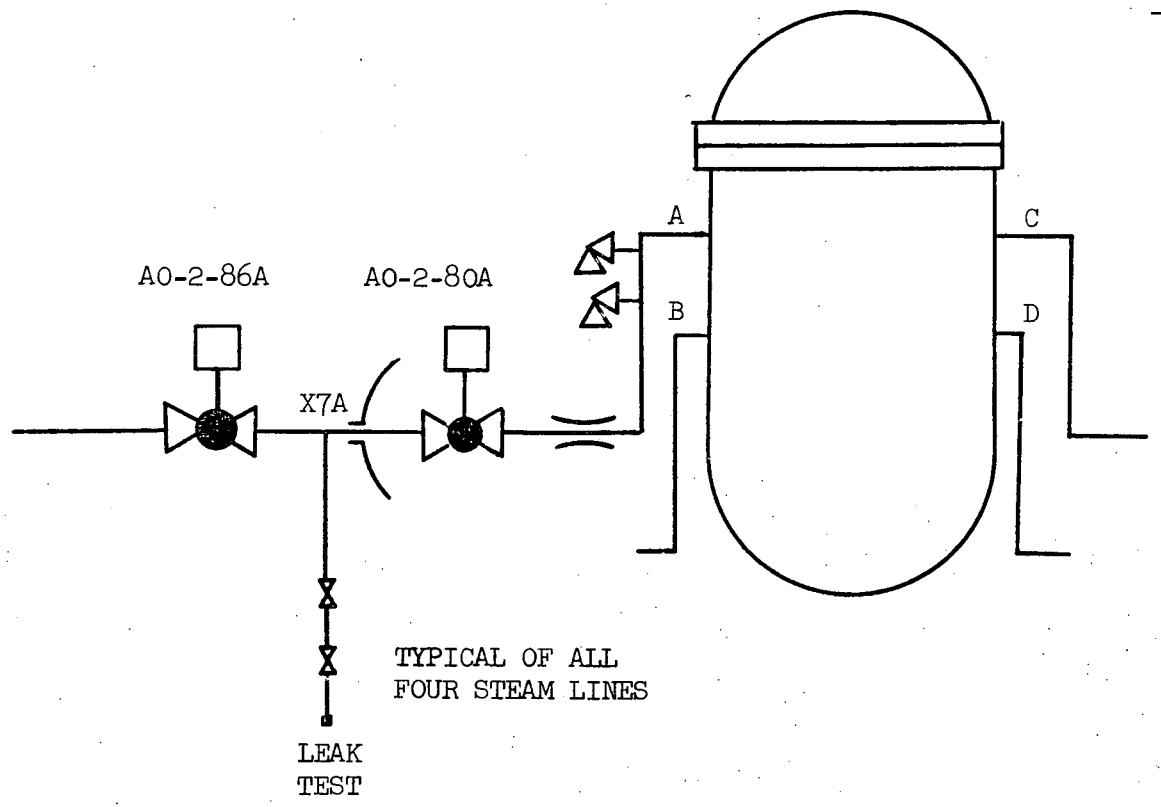


Figure 5. Main Steam Line Isolation Valves

Reference: FSAR Figure 4-4-1