Docket No. 50-336
B15479

Attachment 3

Millstone Nuclear Power Station, Unit No. 2
Proposed Technical Specifications Revision
Containment Isolation Valves

Marked-up Version of Current Technical Specifications

January 1996

DEFINITIONS

CONTAINMENT INTEGRITY

operator action during periods when containment isolation valves may be opened under admistrative control per Specification 4.6.1.1a, or

1.8 CONTAINMENT INTEGRITY shall exist when:

1.8.1 All penetrations required to be closed during accident conditions are either:

a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or

b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions,

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1.8.2 The equipment hatch is closed and sealed, and

1.8.3 The airlock is OPERABLE pursuant to Specification 3.6.1.3.

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

CHANNEL FUNCTIONAL TEST

1.11 A CHANNEL FUNCTIONAL TEST shall be the injection of a simulated signal into the channel as close to the primary sensor as practicable to verify OPERABILITY including alarm and/or trip functions.

May 16, 1984

or operator action during periods when containment isolation valves are opened under administrative control,

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY*, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that all penetrations** not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges or deactivated automatic valves secured in their positions, except as provided in Table 3.6-2 of Specification 3.6.3.1.

b. At least once per 31 days by verifying the equipment hatch is closed and sealed.

c. By verifying the containment air lock is OPERABLE per Specification 3.6.1.3.

d. After each closing of a penetration subject to type B testing (except the containment air lock), if opened following a Type A or B test, by leak rate testing the seal with gas at P_a (54 psig) and verifying that when the measured leakage rate for these seals is added to the leakage rate determined pursuant to Specification 4.6.1.2.d for all other Type B and C penetrations, the combined leakage rate is less than or equal to 0.60 L_a.

← IN ACCORDANCE WITH THE CONTAINMENT LEAKAGE RATE TESTING PROGRAM

*Operation within the time allowances of the ACTION statements of Specification 3.6.1.3 does not constitute a loss of CONTAINMENT INTEGRITY.

** (Insert)

Insert

** Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed, or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

CONTAINMENT SYSTEMS

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3.1 The containment isolation valves specified in Table 3.6-2 shall be OPERABLE with isolation times less than or equal to the required isolation times. (1)

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the isolation valve(s) specified in Table 3.6-2 inoperable, either: (6)

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate the affected penetration(s) within 4 hours by use of a deactivated automatic valve(s) secured in the isolation position(s), or

c. Isolate the affected penetration(s) within 4 hours by use of a closed manual valve(s) or blind flange(s); or

d. Be in COLD SHUTDOWN within the next 36 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1.1 Each isolation valve specified in Table 3.6-2 as testable during plant operation shall be demonstrated OPERABLE:

a. At least once per 92 days by:

1. Exercising each power operated valve through one complete cycle of full travel and measuring the isolation time, and

2. Exercising each manual valve, except those that are closed, through one complete cycle of full travel.

b. Immediately prior to returning the valve to service after maintenance, repair or replacement work is performed on the (6)

March 23, 1977

SURVEILLANCE REQUIREMENTS (Continued)

valve or its associated actuator, control or power circuit by performance of the applicable cycling test, above.

4.6.3.1.2 Each isolation valve specified in Table 3.6-2 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by: (1)

a. Verifying that on a containment isolation test signal, each isolation valve actuates to its isolation position,

b. Verifying that on a Containment Radiation-High signal, all containment purge valves actuate to their isolation position,

c. Exercising each power operated valve not testable during plant operation, through one complete cycle of full travel and measuring its isolation time, and (120)

d. Exercising each manual valve not locked, sealed or otherwise secured in position through at least one complete cycle of full travel. (120)

TABLE 3.6

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	TESTABLE DURING PLANT OPERATION	MAXIMUM ISOLATION TIME
A. CONTAINMENT ISOLATION VALVES			
2-PMW-43	Primary Makeup Water	Yes	5 seconds
2-CH-089	Reactor Coolant Letdown Line	No	5 seconds
2-CH-516	Reactor Coolant Letdown Line	No	5 seconds
2-SSP-16.1	Containment Sump to Aerated Waste Drain Tank	Yes	5 seconds
2-SSP-16.2	Containment Sump to Aerated Waste Drain Tank	Yes	5 seconds
2-RC-001	Reactor Coolant Sampling	Yes	5 seconds
2-RC-002	Reactor Coolant Sampling	Yes	5 seconds
2-RC-003	Reactor Coolant Sampling	Yes	5 seconds
2-RC-45	Reactor Coolant Sampling	Yes	5 seconds
2-LRR-61.1	Reactor Coolant Sampling	Yes	5 seconds
2-MS-220A	Steam Generator Blowdown	Yes	5 seconds
2-MS-220B	Steam Generator Blowdown	Yes	5 seconds
2-SI-312	Nitrogen Supply	Yes	5 seconds
2-LRR-43.1	Primary Drain Tank to Clean Radwaste System	Yes	5 seconds
2-LRR-43.2	Primary Drain Tank to Clean Radwaste System	Yes	5 seconds
2-CH-506	Reactor Coolant Pump Seal Controlled Bleedoff	No	5 seconds
2-CH-198	Reactor Coolant Pump Seal Controlled Bleedoff	No	5 seconds
2-CH-505	Reactor Coolant Pump Seal Controlled Bleedoff	No	5 seconds
2-GR-11.1	Waste Gas Header	Yes	5 seconds
2-GR-11.2	Waste Gas Header	Yes	5 seconds

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TABLE 3.6-2 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	TESTABLE DURING PLANT OPERATION	MAXIMUM ISOLATION TIME
A. CONTAINMENT ISOLATION VALVES			
2-AC-12	Containment Air Sample	Yes	5 seconds
2-AC-15	Containment Air Sample	Yes	5 seconds
2-AC-20	Containment Air Sample	Yes	5 seconds
2-AC-47	Containment Air Sample	Yes	5 seconds
HV-8150	Containment Air Sample	Yes	5 seconds
HV-8151	Containment Air Sample	Yes	5 seconds
2-MS-191A	Steam Generator Sample	Yes	5 seconds
2-MS-191B	Steam Generator Sample	Yes	5 seconds
2-EB-91	Hydrogen Purge	Yes	5 seconds
2-EB-92	Hydrogen Purge	Yes	5 seconds
2-EB-99	Hydrogen Purge	Yes	5 seconds
2-EB-100	Hydrogen Purge	Yes	5 seconds
B. MANUAL			
2-SI-709*	Shutdown Cooling	Yes	Not Applicable
2-SI-463*	Safety Injection Tank Test Line	Yes	Not Applicable
2-SA-19*	Station Air	Yes	Not Applicable
2-RW-21*	Refueling Water Purification	Yes	Not Applicable
2-RW-63*	Refueling Water Purification	Yes	Not Applicable
2-RW-154*	Refueling Water Purification	Yes	Not Applicable
2-RW-232*	Refueling Water Purification	Yes	Not Applicable
2-AC-46*	Hydrogen Monitoring	Yes	Not Applicable
2-AC-51*	Hydrogen Monitoring	Yes	Not Applicable
2-MS-458*	AFW Condensate Drain	Yes	Not Applicable
2-MS-459*	AFW Condensate Drain	Yes	Not Applicable
C. OTHER - NOT APPLICABLE			

*May be opened on an intermittent basis under administrative control.

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BASES

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

The OPERABILITY of the containment spray system ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the accident analyses. The leak rate surveillance requirements assure that the leakage assumed for the system outside containment during the recirculation phase will not be exceeded.

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3/4.6.2.2 CONTAINMENT AIR RECIRCULATION SYSTEM

The OPERABILITY of the containment cooling system ensures that 1) the containment air temperature will be maintained within limits during normal operation, and 2) adequate heat removal capacity is available when operated in conjunction with the containment spray systems during post-LOCA conditions.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

The containment purge supply and exhaust isolation valves are required to be closed and electrically deactivated during plant operation since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Such a demonstration would require justification of the mechanical operability of the purge valves and consideration of the appropriateness of the electrical override circuits. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the containment purge system.

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Insert A

(A) Insert

The Technical Requirements Manual lists the containment isolation valves. The addition, deletion, or modification of any containment isolation valve or related information is reviewed under 10 CFR 50.59 and is approved by the Plant Operations Review Committee.

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Attachment 4

Millstone Nuclear Power Station, Unit No. 2
Proposed Technical Specifications Revision
Containment Isolation Valves

Retyped Technical Specifications

January 1996

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

1.8.1 All penetrations required to be closed during accident conditions are either:

a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or operator action during periods when containment isolation valves may be opened under administrative control per Specification 4.6.1.1.a, or

b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions,

1.8.2 The equipment hatch is closed and sealed, and

1.8.3 The airlock is OPERABLE pursuant to Specification 3.6.1.3.

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

CHANNEL FUNCTIONAL TEST

1.11 A CHANNEL FUNCTIONAL TEST shall be the injection of a simulated signal into the channel as close to the primary sensor as practicable to verify OPERABILITY including alarm and/or trip functions.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY,* restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that all penetrations** not capable of being closed by OPERABLE containment automatic isolation valves, or operator action during periods when containment isolation valves are opened under administrative control, and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions.

b. At least once per 31 days by verifying the equipment hatch is closed and sealed.

c. By verifying the containment air lock is OPERABLE per Specification 3.6.1.3.

d. After each closing of a penetration subject to type B testing (except the containment air lock), if opened following a Type A or B test, by leak rate testing in accordance with the Containment Leakage Rate Testing Program.

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*Operation within the time allowances of the ACTION statements of Specification 3.6.1.3 does not constitute a loss of CONTAINMENT INTEGRITY.

**Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed, or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3.1 The containment isolation valves shall be OPERABLE with isolation times less than or equal to the required isolation times.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the isolation valve(s) inoperable, either:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate the affected penetration(s) within 4 hours by use of a deactivated automatic valve(s) secured in the isolation position(s), or

c. Isolate the affected penetration(s) within 4 hours by use of a closed manual valve(s) or blind flange(s); or

d. Be in COLD SHUTDOWN within the next 36 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1.1 Each isolation valve testable during plant operation shall be demonstrated OPERABLE:

a. At least once per 92 days by:

1. Exercising each power operated valve through one complete cycle of full travel and measuring the isolation time, and

2. Exercising each manual valve, except those that are closed, through one complete cycle of full travel.

b. Immediately prior to returning the valve to service after maintenance, repair or replacement work is performed on the

SURVEILLANCE REQUIREMENTS (Continued)

valve or its associated actuator, control or power circuit by performance of the applicable cycling test, above.

4.6.3.1.2 Each isolation valve shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on a containment isolation test signal, each isolation valve actuates to its isolation position,

b. Verifying that on a Containment Radiation-High signal, all containment purge valves actuate to their isolation position,

c. Exercising each power operated valve not testable during plant operation, through one complete cycle of full travel and measuring its isolation time, and

d. Exercising each manual valve not locked, sealed or otherwise secured in position through at least one complete cycle of full travel.

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3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

The OPERABILITY of the containment spray system ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the accident analyses. The leak rate surveillance requirements assure that the leakage assumed for the system outside containment during the recirculation phase will not be exceeded.

3/4.6.2.2 CONTAINMENT AIR RECIRCULATION SYSTEM

The OPERABILITY of the containment cooling system ensures that 1) the containment air temperature will be maintained within limits during normal operation, and 2) adequate heat removal capacity is available when operated in conjunction with the containment spray systems during post-LOCA conditions.

3/4.6.3 CONTAINMENT ISOLATION VALVES

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The containment purge supply and exhaust isolation valves are required to be closed and electrically deactivated during plant operation since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Such a demonstration would require justification of the mechanical operability of the purge valves and consideration of the appropriateness of the electrical override circuits. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the containment purge system.

The Technical Requirements Manual lists the containment isolation valves. The addition, deletion, or modification of any containment isolation valve or related information is reviewed under 10 CFR 50.59 and is approved by the Plant Operations Review Committee.