

3.6 CONTAINMENT SYSTEMS

3.6.1 Containment

LCO 3.6.1 Containment shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Containment inoperable.	A.1 Restore containment to OPERABLE status.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.1	<p>Perform required Type B and C leakage rate testing except for containment air lock testing, in accordance with 10 CFR 50, Appendix J, Option A, as modified by approved exemptions.</p> <p>The leakage rate acceptance criterion is $\leq 1.0 L_a$. However, during the first unit startup following testing performed in accordance with 10 CFR 50, Appendix J, Option A, as modified by approved exemptions, the leakage rate acceptance criterion is $< 0.6 L_a$ for the Type B and Type C tests.</p>	<p>-----NOTE----- SR 3.0.2 is not applicable -----</p> <p>In accordance with 10 CFR 50, Appendix J, Option A, as modified by approved exemptions</p>
SR 3.6.1.2	<p>Verify containment structural integrity in accordance with the Containment Tendon Surveillance Program.</p>	<p>In accordance with the Containment Tendon Surveillance Program</p>
SR 3.6.1.3	<p>Perform required visual examinations and Type A leakage rate testing, in accordance with the Containment Leakage Rate Testing Program.</p>	<p>In accordance with the Containment Leakage Rate Testing Program</p>

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3.6.2 Containment Air Lock

LCO 3.6.2 The containment air lock shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

- NOTES-----
1. Entry and exit is permissible to perform repairs on the affected air lock components.
 2. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when air lock leakage results in exceeding the overall containment leakage rate.
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CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One containment air lock door inoperable.</p>	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Required Actions A.1, A.2, and A.3 are not applicable if both doors are inoperable and Condition C is entered. 2. Entry and exit is permissible for 7 days under administrative controls. <p>-----</p>	
	<p>A.1 Verify the OPERABLE door is closed.</p>	<p>1 hour</p>
	<p><u>AND</u></p>	
	<p>A.2 Lock the OPERABLE door closed.</p> <p><u>AND</u></p>	<p>24 hours</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	<p>A.3 -----NOTE----- Air lock doors in high radiation areas may be verified locked closed by administrative means. -----</p> <p>Verify the OPERABLE door is locked closed.</p>	Once per 31 days
B. Containment air lock interlock mechanism inoperable.	<p>-----NOTES-----</p> <p>1. Required Actions B.1, B.2, and B.3 are not applicable if both doors are inoperable and Condition C is entered.</p> <p>2. Entry and exit of containment is permissible under the control of a dedicated individual.</p> <p>-----</p> <p>B.1 Verify an OPERABLE door is closed.</p> <p><u>AND</u></p> <p>B.2 Lock an OPERABLE door closed.</p> <p><u>AND</u></p>	<p>1 hour</p> <p>24 hours</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	<p>B.3 NOTE..... Air lock doors in high radiation areas may be verified locked closed by administrative means. </p> <p>Verify an OPERABLE door is locked closed.</p>	Once per 31 days
C. Containment air lock inoperable for reasons other than Condition A or B.	<p>C.1 Initiate action to evaluate overall containment leakage rate per LCO 3.6.1.</p> <p><u>AND</u></p> <p>C.2 Verify a door is closed in the air lock.</p> <p><u>AND</u></p> <p>C.3 Restore air lock to OPERABLE status.</p>	<p>Immediately</p> <p>1 hour</p> <p>24 hours</p>
D. Required Action and associated Completion Time not met.	<p>D.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>D.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.2.1 -----NOTES-----</p> <ol style="list-style-type: none"> 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against acceptance criteria of SR 3.6.1.1, in accordance with 10 CFR 50, Appendix J, Option A, as modified by approved exemptions. <p>-----</p> <p>Perform required air lock leakage rate testing in accordance with 10 CFR 50, Appendix J, Option A, as modified by approved exemptions.</p>	<p>-----NOTE----- SR 3.0.2 is not applicable -----</p> <p>In accordance with 10 CFR 50, Appendix J, Option A, as modified by approved exemptions.</p>
<p>SR 3.6.2.2 Verify only one door in the air lock can be opened at a time.</p>	<p>24 months</p>

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3.6.3 Containment Isolation Valves

LCO 3.6.3 Each containment isolation valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

-----NOTES-----

1. Penetration flow path(s) may be unisolated intermittently under administrative controls.
 2. Separate Condition entry is allowed for each penetration flow path.
 3. Enter applicable Conditions and Required Actions for systems made inoperable by containment isolation valves.
 4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when isolation valve leakage results in exceeding the overall containment leakage rate acceptance criteria.
 5. Enter applicable Conditions and Required Actions of LCO 3.6.8, "Isolation Valve Seal Water (IVSW) System," when required IVSW supply to a penetration flowpath is isolated.
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CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Only applicable to penetration flow paths with two containment isolation valves. ----- One or more penetration flow paths with one containment isolation valve inoperable.</p>	<p>A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.</p> <p style="text-align: center;"><u>AND</u></p>	<p>4 hours</p> <p style="text-align: right;">(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. (continued)</p>	<p>A.2</p> <p style="text-align: center;">-----NOTE----- Isolation devices in high radiation areas may be verified by use of administrative means. -----</p> <p>Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days for isolation devices outside containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment</p>
<p>B. -----NOTE----- Only applicable to penetration flow paths with two containment isolation valves. -----</p> <p>One or more penetration flow paths with two containment isolation valves inoperable.</p>	<p>B.1</p> <p>Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p>	<p>1 hour</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C.NOTE-..... Only applicable to penetration flow paths with only one containment isolation valve and a closed system. One or more Penetration flow paths with one containment isolation valve inoperable.</p>	<p>C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p> <p><u>AND</u></p> <p>C.2NOTE-..... Isolation devices in high radiation areas may be verified by use of administrative means. Verify the affected penetration flow path is isolated.</p>	<p>72 hours</p> <p>Once per 31 days for isolation devices outside containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Required Action and associated Completion Time not met.</p> <p><u>OR</u></p> <p>42 inch penetration (Supply or Exhaust) purge valves open and 6 inch penetration (pressure or vacuum relief) valves open simultaneously.</p>	<p>D.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>D.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.3.1</p> <p>-----NOTE----- The 42 inch and 6 inch valves may not be open simultaneously. -----</p> <p>Verify each 42 inch purge supply and exhaust valve and each 6 inch pressure and vacuum relief valve is closed, except when the valves are open for safety related reasons, or for tests or Surveillances that require the valves to be open.</p>	<p>31 days</p>

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.6.3.2NOTE..... Valves and blind flanges in high radiation areas may be verified by use of administrative controls.</p> <p>Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.</p>	<p>31 days for containment isolation manual valves (except Penetration Pressurization System valves with a diameter $\leq 3/8$ inch) and blind flanges</p> <p><u>AND</u></p> <p>18 months for Penetration Pressurization System valves with a diameter $\leq 3/8$ inch</p>
<p>SR 3.6.3.3NOTE..... Valves and blind flanges in high radiation areas may be verified by use of administrative means.</p> <p>Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.</p>	<p>Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days</p>

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.4	Verify the isolation time of each automatic power operated containment isolation valve is within limits.	In accordance with the Inservice Testing Program
SR 3.6.3.5	Verify each automatic containment isolation valve that is not locked, sealed or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	18 months
SR 3.6.3.6	Verify each 42 inch inboard containment purge valve is blocked to restrict the valve from opening > 70°.	18 months

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3.6.4 Containment Pressure

LCO 3.6.4 Containment pressure shall be ≥ -0.8 psig and $\leq +1.0$ psig.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Containment pressure not within limits.	A.1 Restore containment pressure to within limits.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.4.1 Verify containment pressure is within limits.	12 hours

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3.6.5 Containment Air Temperature

LCO 3.6.5 Containment average air temperature shall be \leq 120°F.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Containment average air temperature not within limit.	A.1 Restore containment average air temperature to within limit.	8 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.5.1 Verify containment average air temperature is within limit.	24 hours

3.6 CONTAINMENT SYSTEMS

3.6.6 Containment Spray and Cooling Systems

LCO 3.6.6 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 84 hours
C. One containment cooling train inoperable.	C.1 Restore containment cooling train to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet the LCO

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ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two containment cooling trains inoperable.	D.1 Restore one containment cooling train to OPERABLE status.	72 hours
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Be in MODE 3. <u>AND</u> E.2 Be in MODE 5.	6 hours 36 hours
F. Two containment spray trains inoperable. <u>OR</u> Any combination of three or more trains inoperable.	F.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.6.1 Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.6.2	Operate each containment cooling train fan unit for ≥ 15 minutes.	31 days
SR 3.6.6.3	Verify cooling water flow rate to each cooling unit is ≥ 750 gpm.	31 days
SR 3.6.6.4	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.6.6.5	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	18 months
SR 3.6.6.6	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	18 months
SR 3.6.6.7	Verify each containment cooling train starts automatically on an actual or simulated actuation signal.	18 months
SR 3.6.6.8	Verify each spray nozzle is unobstructed.	Following activities which could result in nozzle blockage

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3.6.7 Spray Additive System

LCO 3.6.7 The Spray Additive System shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Spray Additive System inoperable.</p> <p><u>AND</u></p> <p>At least 100% of the Spray Additive System flow equivalent to a single OPERABLE Spray Additive System train available to an OPERABLE Containment Spray Train.</p>	<p>A.1 Restore Spray Additive System train to OPERABLE status.</p>	<p>72 hours</p>
<p>B. Spray Additive System inoperable for reasons other than Condition A.</p>	<p>B.1 Restore Spray Additive System to OPERABLE status.</p>	<p>1 hour</p>
<p>C. Required Action and associated Completion Time not met.</p>	<p>C.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>C.2 Be in MODE 5.</p>	<p>6 hours</p> <p>84 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.7.1	Verify each spray additive manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days
SR 3.6.7.2	Verify spray additive tank solution volume is ≥ 2505 gal.	184 days
SR 3.6.7.3	Verify spray additive tank NaOH solution concentration is $\geq 30\%$ by weight.	184 days
SR 3.6.7.4	Verify each spray additive automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	18 months

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3.6.8 Isolation Valve Seal Water (IVSW) System

LCO 3.6.8 The IVSW System shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. IVSW system inoperable.	A.1 Restore IVSW system to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.8.1 Verify IVSW tank pressure is \geq 44.6 psig.	12 hours
SR 3.6.8.2 Verify the IVSW tank volume is \geq 85 gallons.	31 days

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.8.3	Verify the opening time of each air operated header injection valve is within limits.	In accordance with the Inservice Testing Program
SR 3.6.8.4	Verify each automatic valve in the IVSW System actuates to the correct position on an actual or simulated actuation signal.	18 months
SR 3.6.8.5	Verify the IVSW dedicated nitrogen bottles will pressurize the IVSW tank to ≥ 44.6 psig.	18 months
SR 3.6.8.6	Verify IVSW seal header flow rate is: a. ≤ 52.00 cc/minute for Header A, b. ≤ 16.50 cc/minute for Header B, c. ≤ 32.50 cc/minute for Header C, and d. ≤ 23.00 cc/minute for Header D.	18 months