

INSERT Bases SR 3.6.5.9

SR 3.6.5.9

Reactor Building Spray System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the required containment spray trains and may also prevent water hammer and pump cavitation.

Selection of Reactor Building Spray System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plan and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

The Reactor Building Spray System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the susceptible location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the Reactor Building Spray System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits. If the accumulated gas is eliminated or brought within the acceptance criteria limits as part of the Surveillance performance, the Surveillance is considered met and the system is OPERABLE. Past operability is then evaluated under the Corrective Action program. If it is suspected that a gas intrusion event is occurring, then this is evaluated under the Operability Determination Process.

Reactor Building Spray System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same system flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative sub-set of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.

- High Water Level

BASES

LCO

Only one DHR loop is required for decay heat removal in MODE 6 with a water level ≥ 21.34 feet above the top of the reactor vessel flange. Only one DHR Loop is required to be operable because the volume of water above the reactor vessel flange provides backup decay heat removal capability. At least one DHR loop must be OPERABLE and in operation to provide:

- a. Removal of decay heat;
- b. Mixing of borated coolant to minimize the possibility of criticality; and
- c. Indication of reactor coolant temperature.

To be considered OPERABLE, a DHR loop must include a pump, a heat exchanger, valves, piping, instruments, and controls to ensure an OPERABLE flow path and to determine the temperature. The flow path starts in one of the RCS hot legs and is returned to reactor vessel via either one or both of the Core Flood tank injection nozzles when using an LPI pump. The BWST recirculation crossover line through valves LP-40 and LP-41 may be part of a flow path if it provides adequate decay heat removal capability. The operability of the operating DHR loop and the supporting heat sink is dependent on the ability to maintain the desired RCS temperature. LPSW and ECCW are required to support the DHR train.

Additionally, to be considered OPERABLE, a DHR loop must be capable of being manually aligned (remote or local) in the DHR mode for removal of decay heat. Operation of one loop can maintain the reactor coolant temperature as required. The LCO is modified by a Note that allows the required DHR loop to be removed from operation for up to 1 hour in an 8 hour period, provided no operation that would cause reduction of the RCS boron concentration is in progress. Boron concentration reduction is prohibited because uniform concentration distribution cannot be ensured without forced circulation, etc. This allowance permits operations such as core mapping, alterations or maintenance in the vicinity of the reactor vessel hot leg nozzles and RCS to LPI isolation valve testing. During this 1 hour period, decay heat is removed by natural convection.

Management of gas voids is important to DHR System OPERABILITY.

- High Water Level

BASES

ACTIONS
(continued)

A.3

If DHR loop requirements are not met, actions shall be initiated immediately in order to satisfy DHR loop requirements.

Restoration of one decay heat removal loop is required because this is the only active method of removing decay heat. Dissipation of decay heat through natural convection should not be relied upon for an extended period of time. Reliance on natural convection can lead to boiling which results in inventory loss. Sustained inventory loss can eventually result in inadequate decay heat removal from the core with subsequent release of fission products from the core to the reactor building atmosphere. The immediate Completion Time reflects the importance of restoring an adequate heat cooling loop.

A.4

If DHR loop requirements are not met, all containment penetrations providing direct access from the containment atmosphere to outside atmosphere shall be closed within 4 hours.

If no means of decay heat removal can be restored, the core decay heat could raise temperatures and cause boiling in the core which could result in uncovering the core and the release of radioactivity to the reactor building atmosphere. Closure of penetrations providing access to the outside atmosphere will prevent uncontrolled release of radioactivity to the environment.

SURVEILLANCE REQUIREMENTS

SR 3.9.4.1

This Surveillance demonstrates that the DHR loop is in operation and circulating reactor coolant. Verification includes flow rate, temperature, or pump status monitoring, which help assure that forced flow is providing heat removal. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

REFERENCES

- 1. 10 CFR 50.36.

INSERT Bases SR 3.9.4.2 (attached)

Oconee Units 1, 2, and 3

INSERT Bases SR 3.9.4.2

SR 3.9.4.2

DHR System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the required DHR loop(s) and may also prevent water hammer, pump cavitation, and pumping of noncondensable gas into the reactor vessel.

Selection of DHR System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plan and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

The DHR System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the susceptible location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the DHR System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits. If the accumulated gas is eliminated or brought within the acceptance criteria limits as part of the Surveillance performance, the Surveillance is considered met and the system is OPERABLE. Past operability is then evaluated under the Corrective Action program. If it is suspected that a gas intrusion event is occurring, then this is evaluated under the Operability Determination Process.

DHR System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same system flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative sub-set of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.

BASES (continued)

LCO

In MODE 6, with the water level < 21.34 ft above the top of the reactor vessel flange, two DHR loops must be OPERABLE. Additionally, one DHR loop must be in operation to provide:

- a. Removal of decay heat;
- b. Mixing of borated coolant to minimize the possibility of criticality; and
- c. Indication of reactor coolant temperature.

To be considered OPERABLE, a DHR loop must consist of a pump, a heat exchanger, valves, piping, instruments, and controls to ensure an OPERABLE flow path and to determine the temperature. The flow path starts in one of the RCS hot legs and is returned to reactor vessel via one or both of the Core Flood tank injection nozzles. The BWST recirculation crossover line through valves LP-40 and LP-41 may be part of a flow path if it provides adequate decay heat removal capability. The operability of the operating DHR loop and the supporting heat sink is dependent on the ability to maintain the desired RCS temperature. LPSW and ECCW are required to support the OPERABLE DHR train(s). One LPSW pump and one ECCW header can simultaneously support one or two DHR trains. Single failure protection is not required for LPSW or support systems in these modes.

Both pumps may be aligned to the Borated Water Storage Tank to support filling or draining of the refueling transfer canal or performance of required testing.

To be considered OPERABLE, each DHR loop must be capable of being manually aligned (remote or local) in the DHR mode for removal of decay heat. Operation of one DHR loop can maintain the reactor coolant temperature as required.

APPLICABILITY

Two DHR loops are required to be OPERABLE, and one in operation in MODE 6, with the water level < 21.34 ft above the top of the reactor vessel flange, to provide decay heat removal. Requirements for the LPI System in other MODES are covered by LCOs in Section 3.4, Reactor Coolant System (RCS), and Section 3.5, Emergency Core Cooling Systems (ECCS). DHR loop requirements in MODE 6, with the water level \geq 21.34 ft above the top of the reactor vessel flange, are located in LCO 3.9.4, "Decay Heat Removal (DHR) and Coolant Circulation – High Water Level."

Management of gas voids is important to DHR System OPERABILITY.

BASES (continued)

SURVEILLANCE
REQUIREMENTS

SR 3.9.5.1

This Surveillance demonstrates that one DHR loop is in operation. The flow rate is determined by the operator as that necessary to provide adequate decay heat removal capability.

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.9.5.2

Verification that each required pump is OPERABLE ensures that an additional DHR pump can be placed in operation, if needed, to maintain decay heat removal and reactor coolant circulation. Verification is performed by verifying proper breaker alignment and power available to the required pump. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. 10 CFR 50.36.
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INSERT Bases SR 3.9.5.3 (attached)

Ocone Units 1, 2, and 3

INSERT Bases SR 3.9.5.3

SR 3.9.5.3

DHR System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the DHR loops and may also prevent water hammer, pump cavitation, and pumping of noncondensable gas into the reactor vessel.

Selection of DHR System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plan and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

The DHR System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the susceptible location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the DHR System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met.

Accumulated gas should be eliminated or brought within the acceptance criteria limits. If the accumulated gas is eliminated or brought within the acceptance criteria limits as part of the Surveillance performance, the Surveillance is considered met and the system is OPERABLE. Past operability is then evaluated under the Corrective Action program. If it is suspected that a gas intrusion event is occurring, then this is evaluated under the Operability Determination Process.

DHR System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same system flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative sub-set of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.

Attachment 4
RA-15-0006

Attachment 4
Retyped Technical Specification Pages

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.7.1</p> <p>-----NOTE----- Not required to be met until 2 hours after reactor steam dome pressure is less than the RHR shutdown cooling isolation pressure. -----</p> <p>Verify one required RHR shutdown cooling subsystem or recirculation pump is operating.</p>	<p>12 hours</p>
<p>SR 3.4.7.2</p> <p>-----NOTE----- Not required to be performed until 12 hours after reactor steam dome pressure is less than the RHR shutdown cooling isolation pressure. -----</p> <p>Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.</p>	<p>31 days</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. No RHR shutdown cooling subsystem in operation.</p> <p><u>AND</u></p> <p>No recirculation pump in operation.</p>	<p>B.1 Verify reactor coolant circulating by an alternate method.</p> <p><u>AND</u></p> <p>B.2 Monitor reactor coolant temperature.</p>	<p>1 hour from discovery of no reactor coolant circulation</p> <p><u>AND</u></p> <p>Once per 12 hours thereafter</p> <p>Once per hour</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.8.1 Verify one required RHR shutdown cooling subsystem or recirculation pump is operating.</p>	<p>12 hours</p>
<p>SR 3.4.8.2 Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.</p>	<p>31 days</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>J. Two or more low pressure ECCS injection/spray subsystems inoperable for reasons other than Condition A or B.</p> <p><u>OR</u></p> <p>HPCI System and two or more required ADS valves inoperable.</p>	<p>J.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.1 Verify, for each ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.</p>	<p>92 days</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.2 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the Residual Heat Removal (RHR) shutdown cooling isolation pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable. 2. Not required to be met for system vent flow paths opened under administrative control. <p>-----</p> <p>Verify each ECCS injection/spray subsystem 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.</p>	<p>31 days</p>
<p>SR 3.5.1.3 Verify ADS pneumatic supply header pressure is ≥ 95 psig.</p>	<p>31 days</p>
<p>SR 3.5.1.4 Verify the RHR System cross tie valve is locked closed.</p>	<p>31 days</p>
<p>SR 3.5.1.5 -----NOTE-----</p> <p>Not required to be performed if performed within the previous 31 days.</p> <p>-----</p> <p>Verify each recirculation pump discharge valve and bypass valve cycles through one complete cycle of full travel or is de-energized in the closed position.</p>	<p>Once each startup prior to exceeding 25% RTP</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.2	<p>Verify, for each required core spray (CS) subsystem, the:</p> <p>a. Suppression pool water level is \geq -31 inches; or</p> <p>b. -----NOTE----- Only one required CS subsystem may take credit for this option during OPDRVs. ----- Condensate storage tank water volume is \geq 228,200 gallons.</p>	12 hours
SR 3.5.2.3	<p>Verify, for each required ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.</p>	31 days
SR 3.5.2.4	<p>-----NOTES-----</p> <p>1. One LPCI subsystem may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable.</p> <p>2. Not required to be met for system vent flow paths opened under administrative control.</p> <p>-----</p> <p>Verify each required ECCS injection/spray subsystem 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.</p>	31 days

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.3.1	Verify the RCIC System locations susceptible to gas accumulation are sufficiently filled with water.	92 days
SR 3.5.3.2	<p>-----NOTE-----</p> <p>Not required to be met for system vent flow paths opened under administrative control.</p> <p>-----</p> <p>Verify each RCIC System 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.</p>	31 days
SR 3.5.3.3	<p>-----NOTE-----</p> <ol style="list-style-type: none"> 1. Use of auxiliary steam for the performance of the SR is not allowed. 2. Not required to be performed until 24 hours after reactor steam pressure is adequate to perform the test. <p>-----</p> <p>Verify, with reactor pressure ≥ 945 psig and ≤ 1045 psig, the RCIC pump can develop a flow rate ≥ 400 gpm against a system head corresponding to reactor pressure.</p>	92 days

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.3.1	Verify each RHR suppression pool cooling subsystem 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 or can be aligned to the correct position.	31 days
SR 3.6.2.3.2	Verify each RHR pump develops a flow rate ≥ 7700 gpm through the associated heat exchanger while operating in the suppression pool cooling mode.	92 days
SR 3.6.2.3.3	Verify RHR suppression pool cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	92 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.7.1	Verify one RHR shutdown cooling subsystem is operating.	12 hours
SR 3.9.7.2	Verify required RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	31 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.8.1	Verify one RHR shutdown cooling subsystem is operating.	12 hours
SR 3.9.8.2	Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	31 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.7.1	<p>-----NOTE----- Not required to be met until 2 hours after reactor steam dome pressure is less than the RHR shutdown cooling isolation pressure. -----</p> <p>Verify one required RHR shutdown cooling subsystem or recirculation pump is operating.</p>	12 hours
SR 3.4.7.2	<p>-----NOTE----- Not required to be performed until 12 hours after reactor steam dome pressure is less than the RHR shutdown cooling isolation pressure. -----</p> <p>Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.</p>	31 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. No RHR shutdown cooling subsystem in operation.</p> <p><u>AND</u></p> <p>No recirculation pump in operation.</p>	<p>B.1 Verify reactor coolant circulating by an alternate method.</p> <p><u>AND</u></p> <p>B.2 Monitor reactor coolant temperature.</p>	<p>1 hour from discovery of no reactor coolant circulation</p> <p><u>AND</u></p> <p>Once per 12 hours thereafter</p> <p>Once per hour</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.8.1 Verify one required RHR shutdown cooling subsystem or recirculation pump is operating.</p>	<p>12 hours</p>
<p>SR 3.4.8.2 Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.</p>	<p>31 days</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>J. Two or more low pressure ECCS injection/spray subsystems inoperable for reasons other than Condition A or B.</p> <p><u>OR</u></p> <p>HPCI System and two or more required ADS valves inoperable.</p>	<p>J.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.1 Verify, for each ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.</p>	<p>92 days</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.1.2	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the Residual Heat Removal (RHR) shutdown cooling isolation pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable. 2. Not required to be met for system vent flow paths opened under administrative control. <p>-----</p> <p>Verify each ECCS injection/spray subsystem 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.</p>	31 days
SR 3.5.1.3	Verify ADS pneumatic supply header pressure is ≥ 95 psig.	31 days
SR 3.5.1.4	Verify the RHR System cross tie valve is locked closed.	31 days
SR 3.5.1.5	<p>-----NOTE-----</p> <p>Not required to be performed if performed within the previous 31 days.</p> <p>-----</p> <p>Verify each recirculation pump discharge valve and bypass valve cycles through one complete cycle of full travel or is de-energized in the closed position.</p>	Once each startup prior to exceeding 25% RTP

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.2	<p>Verify, for each required core spray (CS) subsystem, the:</p> <p>a. Suppression pool water level is \geq -31 inches; or</p> <p>b. -----NOTE----- Only one required CS subsystem may take credit for this option during OPDRVs. ----- Condensate storage tank water volume is \geq 228,200 gallons.</p>	12 hours
SR 3.5.2.3	<p>Verify, for each required ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.</p>	31 days
SR 3.5.2.4	<p>-----NOTES-----</p> <p>1. One LPCI subsystem may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable.</p> <p>2. Not required to be met for system vent flow paths opened under administrative control.</p> <p>-----</p> <p>Verify each required ECCS injection/spray subsystem 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.</p>	31 days

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.3.1	Verify the RCIC System locations susceptible to gas accumulation are sufficiently filled with water.	92 days
SR 3.5.3.2	<p>-----NOTE-----</p> <p>Not required to be met for system vent flow paths opened under administrative control.</p> <p>-----</p> <p>Verify each RCIC System 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.</p>	31 days
SR 3.5.3.3	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Use of auxiliary steam for the performance of the SR is not allowed. 2. Not required to be performed until 24 hours after reactor steam pressure is adequate to perform the test. <p>-----</p> <p>Verify, with reactor pressure ≥ 945 psig and ≤ 1045 psig, the RCIC pump can develop a flow rate ≥ 400 gpm against a system head corresponding to reactor pressure.</p>	92 days

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.3.1	Verify each RHR suppression pool cooling subsystem 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 or can be aligned to the correct position.	31 days
SR 3.6.2.3.2	Verify each RHR pump develops a flow rate ≥ 7700 gpm through the associated heat exchanger while operating in the suppression pool cooling mode.	92 days
SR 3.6.2.3.3	Verify RHR suppression pool cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	92 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.7.1	Verify one RHR shutdown cooling subsystem is operating.	12 hours
SR 3.9.7.2	Verify required RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	31 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.8.1	Verify one RHR shutdown cooling subsystem is operating.	12 hours
SR 3.9.8.2	Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	31 days

REACTOR COOLANT SYSTEM
HOT SHUTDOWN

SURVEILLANCE REQUIREMENTS

- 4.4.1.3.1 The required reactor coolant pump(s), if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.
- 4.4.1.3.2 The required steam generator(s) shall be determined OPERABLE by verifying wide range (WR) secondary side water level is greater than 74% or narrow range (NR) secondary side water level is greater than 30% at least once per 12 hours.
- 4.4.1.3.3 At least one reactor coolant or RHR loop shall be verified in operation and circulating reactor coolant at least once per 12 hours.
- 4.4.1.3.4 Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water at least once per 31 days.*

*Not required to be performed until 12 hours after entering MODE 4.

REACTOR COOLANT SYSTEM
COLD SHUTDOWN - LOOPS FILLED

LIMITING CONDITION FOR OPERATION

- 3.4.1.4.1 At least one residual heat removal (RHR) loop shall be OPERABLE and in operation*, and either:
- One additional RHR loop shall be OPERABLE**, or
 - The secondary side water level of at least two steam generators shall be greater than 74% wide range (WR) or greater than 30% narrow range (NR).

APPLICABILITY: MODE 5 with reactor coolant loops filled***.

ACTION:

- With one of the RHR loops inoperable and with less than the required steam generator water level, immediately initiate corrective action to return the inoperable RHR loop to OPERABLE status or restore the required steam generator water level as soon as possible.
- With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to operation.

SURVEILLANCE REQUIREMENTS

- 4.4.1.4.1.1 The secondary side water level of at least two steam generators when required shall be determined to be within limits at least once per 12 hours.
- 4.4.1.4.1.2 At least one RHR loop shall be determined to be in operation and circulating reactor coolant at least once per 12 hours.
- 4.4.1.4.1.3 Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water at least once per 31 days.

* The RHR pump may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

** One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

*** A reactor coolant pump shall not be started with one or more of the Reactor Coolant System cold leg temperatures less than or equal to 325°F unless the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures.

REACTOR COOLANT SYSTEM
COLD SHUTDOWN - LOOPS NOT FILLED

LIMITING CONDITION FOR OPERATION

3.4.1.4.2 Two residual heat removal (RHR) loops shall be OPERABLE* and at least one RHR loop shall be in operation.**

APPLICABILITY: MODE 5 with reactor coolant loops not filled.

ACTION:

- a. With less than the above required RHR loops OPERABLE, immediately initiate corrective action to return the required RHR loops to OPERABLE status as soon as possible.
- b. With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.4.2.1 At least one RHR loop shall be determined to be in operation and circulating reactor coolant at least once per 12 hours.

4.4.1.4.2.2 Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water at least once per 31 days.

* One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

** The RHR pump may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

<u>CP&L Valve No.</u>	<u>EBASCO Valve No.</u>	<u>Valve Function</u>	<u>Valve Position</u>
1SI-107	2SI-V500SA-1	High Head Safety Injection to Reactor Coolant System Hot Legs	Closed
1SI-86	2SI-V501SB-1	High Head Safety Injection to Reactor Coolant System Hot Legs	Closed
1SI-52	2SI-V502SA-1	High Head Safety Injection to Reactor Coolant System Cold Legs	Closed
1SI-340	2SI-V579SA-1	Low Head Safety Injection to Reactor Coolant System Cold Legs	Open
1SI-341	2SI-V578SB-1	Low Head Safety Injection to Reactor Coolant System Cold Legs	Open
1SI-359	2SI-V587SA-1	Low Head Safety Injection to Reactor Coolant System Hot Legs	Closed

- b. At least once per 31 days by:
1. Verifying that ECCS locations susceptible to gas accumulation are sufficiently filled with water, and
 2. Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.*
- c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suction during LOCA conditions. This visual inspection shall be performed:
1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
 2. Of the areas affected within containment at the completion of each containment entry when CONTAINMENT INTEGRITY is established.

* Not required to be met for system vent flow paths opened under administrative control.

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

- 3.6.2.1 Two independent Containment Spray Systems shall be OPERABLE with each Spray System capable of taking suction from the RWST and transferring suction to the containment sump.

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

ACTION:

With one Containment Spray System inoperable, restore the inoperable Spray System to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable Spray System to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours. Refer also to Specification 3.6.2.3 Action.

SURVEILLANCE REQUIREMENTS

- 4.6.2.1 Each Containment Spray System shall be demonstrated OPERABLE:
- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position*;
 - b. By verifying that, on an indicated recirculation flow of at least 1832 gpm, each pump develops a differential pressure of greater than or equal to 186 psi when tested pursuant to the Inservice Testing Program;
 - c. At least once per 18 months by:
 1. Verifying that each automatic valve in the flow path actuates to its correct position on a containment spray actuation test signal and
 2. Verifying that each spray pump starts automatically on a containment spray actuation test signal.
 3. Verifying that, coincident with an indication of containment spray pump running, each automatic valve from the sump and RWST actuates to its appropriate position following an RWST Lo-Lo test signal.
 - d. At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.
 - e. At least once per 92 days by verifying that containment spray locations susceptible to gas accumulation are sufficiently filled with water.

* Not required to be met for system vent flow paths opened under administrative control.

REFUELING OPERATIONS

3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

HIGH WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.8.1 At least one residual heat removal (RHR) loop shall be OPERABLE and in operation.*

APPLICABILITY: MODE 6, with irradiated fuel in the vessel when the water level above the top of the reactor vessel flange is greater than or equal to 23 feet.

ACTION:

With no RHR loop OPERABLE and in operation, suspend all operations involving an increase in the reactor decay heat load or a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to OPERABLE and operating status as soon as possible. Close all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere within 4 hours.

SURVEILLANCE REQUIREMENTS

- 4.9.8.1.1 At least one RHR loop shall be verified in operation and circulating reactor coolant at a flow rate of greater than or equal to 2500 gpm at least once per 12 hours.
- 4.9.8.1.2 Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water at least once per 31 days.

*The RHR loop may be removed from operation for up to 1 hour per 2-hour period during the performance of CORE ALTERATIONS and core loading verification in the vicinity of the reactor vessel hot legs.

REFUELING OPERATIONS

LOW WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.8.2 Two independent residual heat removal (RHR) loops shall be OPERABLE, and at least one RHR loop shall be in operation.*

APPLICABILITY: MODE 6, with irradiated fuel in the vessel when the water level above the top of the reactor vessel flange is less than 23 feet.

ACTION:

- a. With less than the required RHR loops OPERABLE, immediately initiate corrective action to return the required RHR loops to OPERABLE status or to establish greater than or equal to 23 feet of water above the reactor vessel flange as soon as possible.
- b. With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to operation. Close all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere within 4 hours.

SURVEILLANCE REQUIREMENTS

- 4.9.8.2.1 At least one RHR loop shall be verified in operation and circulating reactor coolant at a flow rate of greater than or equal to 2500 gpm at least once per 12 hours whenever the water level is at or above the reactor vessel flange.
- 4.9.8.2.2 At least one RHR loop shall be verified in operation and circulating reactor coolant at a flow rate of greater than or equal to 900 gpm at least once per 12 hours whenever the water level is below the reactor vessel flange.
- 4.9.8.2.3 Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water at least once per 31 days.

*The operating RHR loop may be removed from operation for up to 1 hour per 2-hour period during the performance of CORE ALTERATIONS and core loading verification in the vicinity of the reactor vessel hot legs.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.4.6.3 Verify correct breaker alignment and indicated power are available to the required pump that is not in operation.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.4.6.4 -----NOTE----- Not required to be performed until 12 hours after entering MODE 4. ----- Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.4.7.3 Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.7.4 Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required RHR loops inoperable. <u>OR</u> No RHR loop in operation.	B.1 Suspend operations that would cause introduction of coolant into the RCS with boron concentration less than required to meet SDM of LCO 3.1.1.	Immediately
	<u>AND</u> B.2 Initiate action to restore one RHR loop to OPERABLE status and operation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.8.1 Verify one RHR loop is in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.8.2 Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.8.3 Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE			FREQUENCY
SR 3.5.2.1	Verify the following valves are in the listed position with power to the valve operator removed.		In accordance with the Surveillance Frequency Control Program
	<u>Number</u>	<u>Position</u>	
	NI162A	Open	
	NI121A	Closed	
	NI152B	Closed	
	NI183B	Closed	
	NI173A	Open	
	NI178B	Open	
	NI100B	Open	
	NI147B	Open	
			SI Cold Leg Injection
			SI Hot Leg Injection
			SI Hot Leg Injection
			RHR Hot Leg Injection
			RHR Cold Leg Injection
			RHR Cold Leg Injection
			SI Pump Suction from RWST
			SI Pump Mini-Flow
SR 3.5.2.2	-----NOTE----- Not required to be met for system vent flow paths opened under administrative control. Verify each ECCS 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.		In accordance with the Surveillance Frequency Control Program
SR 3.5.2.3	Verify ECCS locations susceptible to gas accumulation are sufficiently filled with water.		In accordance with the Surveillance Frequency Control Program
SR 3.5.2.4	Verify each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head.		In accordance with the Inservice Testing Program

(continued)

3.6 CONTAINMENT SYSTEMS

3.6.6 Containment Spray System

LCO 3.6.6 Two containment spray 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
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.	84 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.6.1 -----NOTE----- Not required to be met for system vent flow paths opened under administrative control.</p> <hr/> <p>Verify each containment spray manual and power operated valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.6.2	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 3.6.6.3	Deleted.	
SR 3.6.6.4	Deleted.	
SR 3.6.6.5	Verify that each spray pump is de-energized and prevented from starting upon receipt of a terminate signal and is allowed to manually start upon receipt of a start permissive from the Containment Pressure Control System (CPCS).	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.6	Verify that each spray pump discharge valve closes or is prevented from opening upon receipt of a terminate signal and is allowed to manually open upon receipt of a start permissive from the Containment Pressure Control System (CPCS).	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.7	Verify each spray nozzle is unobstructed.	Following activities which could result in nozzle blockage
SR 3.6.6.8	Verify containment spray locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

RHR and Coolant Circulation - High Water Level
3.9.4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.4 Close all containment penetrations providing direct access from containment atmosphere to outside atmosphere.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.4.1 Verify one RHR loop is in operation and circulating reactor coolant at a flow rate of ≥ 1000 gpm and RCS temperature is $\leq 140^\circ\text{F}$.	In accordance with the Surveillance Frequency Control Program
SR 3.9.4.2 Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

RHR and Coolant Circulation - Low Water Level
3.9.5

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2 Initiate action to restore one RHR loop to operation.	Immediately
	<u>AND</u> B.3 Close all containment penetrations providing direct access from containment atmosphere to outside atmosphere.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.5.1 Verify one RHR loop is in operation and circulating reactor coolant at a flow rate of ≥ 1000 gpm and RCS temperature is $\leq 140^\circ\text{F}$.	In accordance with the Surveillance Frequency Control Program
SR 3.9.5.2 Verify correct breaker alignment and indicated power available to the required RHR pump that is not in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.9.5.3 Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.4.6.4 ----- NOTE-----</p> <p>Not required to be performed until 12 hours after entering MODE 4.</p> <p>-----</p> <p>Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.7.1 Verify one RHR loop is in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.7.2 Verify SG secondary side water level is \geq 12% narrow range in required SGs.	In accordance with the Surveillance Frequency Control Program
SR 3.4.7.3 Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.7.4 Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY																														
SR 3.5.2.1	<p>Verify the following valves are in the listed position with power to the valve operator removed.</p> <table border="1"> <thead> <tr> <th><u>Number</u></th> <th><u>Position</u></th> <th><u>Function</u></th> </tr> </thead> <tbody> <tr> <td>NI162A</td> <td>Open</td> <td>SI Cold Leg Injection</td> </tr> <tr> <td>NI121A</td> <td>Closed</td> <td>SI Hot Leg Injection</td> </tr> <tr> <td>NI152B</td> <td>Closed</td> <td>SI Hot Leg Injection</td> </tr> <tr> <td>NI183B</td> <td>Closed</td> <td>RHR Hot Leg Injection</td> </tr> <tr> <td>NI173A</td> <td>Open</td> <td>RHR Cold Leg Injection</td> </tr> <tr> <td>NI178B</td> <td>Open</td> <td>RHR Cold Leg Injection</td> </tr> <tr> <td>NI100B</td> <td>Open</td> <td>SI Pump RWST Suction</td> </tr> <tr> <td>FW27A</td> <td>Open</td> <td>RHR/RWST Suction</td> </tr> <tr> <td>NI147A</td> <td>Open</td> <td>SI Pump Mini-Flow</td> </tr> </tbody> </table>	<u>Number</u>	<u>Position</u>	<u>Function</u>	NI162A	Open	SI Cold Leg Injection	NI121A	Closed	SI Hot Leg Injection	NI152B	Closed	SI Hot Leg Injection	NI183B	Closed	RHR Hot Leg Injection	NI173A	Open	RHR Cold Leg Injection	NI178B	Open	RHR Cold Leg Injection	NI100B	Open	SI Pump RWST Suction	FW27A	Open	RHR/RWST Suction	NI147A	Open	SI Pump Mini-Flow	In accordance with the Surveillance Frequency Control Program
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NI162A	Open	SI Cold Leg Injection																														
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NI178B	Open	RHR Cold Leg Injection																														
NI100B	Open	SI Pump RWST Suction																														
FW27A	Open	RHR/RWST Suction																														
NI147A	Open	SI Pump Mini-Flow																														
SR 3.5.2.2	<p>----- NOTE ----- Not required to be met for system vent flow paths opened under administrative control. ----- Verify each ECCS 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.</p>	In accordance with the Surveillance Frequency Control Program																														
SR 3.5.2.3	Verify ECCS locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program																														

(continued)

3.6 CONTAINMENT SYSTEMS

3.6.6 Containment Spray System

LCO 3.6.6 Two containment spray 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
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.	84 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.6.1 ----- NOTE ----- Not required to be met for system vent flow paths opened under administrative control. ----- Verify each containment spray manual and power operated valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.6.2	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 3.6.6.3	Not Used	Not Used
SR 3.6.6.4	Not Used	Not Used
SR 3.6.6.5	Verify that each spray pump is de-energized and prevented from starting upon receipt of a terminate signal and is allowed to manually start upon receipt of a start permissive from the Containment Pressure Control System (CPCS).	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.6	Verify that each spray pump discharge valve closes or is prevented from opening upon receipt of a terminate signal and is allowed to manually open upon receipt of a start permissive from the Containment Pressure Control System (CPCS).	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.7	Verify each spray nozzle is unobstructed.	Following activities which could result in nozzle blockage
SR 3.6.6.8	Verify containment spray locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.4 Close all containment penetrations providing direct access from containment atmosphere to outside atmosphere.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.5.1 Verify one RHR loop is in operation and circulating reactor coolant at a flow rate of ≥ 1000 gpm and RCS temperature is $\leq 140^\circ\text{F}$.	In accordance with the Surveillance Frequency Control Program
SR 3.9.5.2 Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2 Initiate action to restore one RHR loop to operation.	Immediately
	<u>AND</u> B.3 Close all containment penetrations providing direct access from containment atmosphere to outside atmosphere.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.6.1 Verify one RHR loop is in operation and circulating reactor coolant at a flow rate of ≥ 1000 gpm and RCS temperature is $\leq 140^{\circ}\text{F}$.	In accordance with the Surveillance Frequency Control Program
SR 3.9.6.2 Verify correct breaker alignment and indicated power available to the required RHR pump that is not in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.9.6.3 Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Two required loops inoperable. <u>OR</u> Required loop not in operation.	B.1 Suspend all operations involving a reduction in RCS boron concentration.	Immediately
	<u>AND</u> B.2 Initiate action to restore one loop to OPERABLE status and operation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.6.1 Verify required DHR or RCS loop is in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.6.2 Verify correct breaker alignment and indicated power available to the required pump that is not in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.6.3 -----NOTE----- Not required to be performed until 12 hours after entering MODE 4. ----- Verify required DHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program