

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 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) At least once daily of the areas affected within containment by containment entry and during the final entry when CONTAINMENT INTEGRITY is established.
- d. At least once each REFUELING INTERVAL by a visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion;
- e. At least once each REFUELING INTERVAL by:
- 1) Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection actuation test signal.
 - 2) Verifying that each of the following pumps start automatically upon receipt of a Safety Injection actuation test signal:
 - a) Centrifugal charging pump.
 - b) Safety Injection pump, and
 - c) Residual Heat Removal pump.
- f. By verifying that each of the following pumps develops the indicated differential pressure on recirculation flow when tested pursuant to Specification 4.0.5:
- 1) Centrifugal charging pump \geq 2400 psid.
 - 2) Safety Injection pump \geq 1455 psid, and
 - 3) Residual Heat Removal pump \geq 165 psid.

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- g. By verifying the correct position of each electrical and/or mechanical position stop for the following ECCS throttle valves:
- 1) Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE, and
 - 2) At least once each REFUELING INTERVAL.

Charging Injection
Throttle Valves

8810A
8810B
8810C
8810D

Safety Injection
Throttle Valves

8822A
8822B
8822C
8822D

- h. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying that:
- 1) For centrifugal charging pumps, with a single pump running:
 - a) The sum of injection line flow rates, excluding the highest flow rate, is greater than or equal to 299 gpm, and

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LIMITING CONDITION FOR OPERATION

3.6.2.3 The Containment Cooling System shall be OPERABLE with either:

- a. At least four containment fan cooler units (CFCUs), or
- b. At least three CFCUs, each of the three supplied from a different vital bus.

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

ACTION:

- a. With the requirements of the above specification not satisfied, but at least two CFCUs OPERABLE and both Containment Spray Systems OPERABLE, restore the Containment Cooling System to OPERABLE status within 7 days, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With the requirements of the above specification not satisfied and one Containment Spray System inoperable, but at least two CFCUs OPERABLE, restore the inoperable Containment Spray System to OPERABLE status within 72 hours otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore the Containment Cooling System to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 Each containment fan cooler unit shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
 - 1) Starting each containment fan cooler unit and verifying that each containment fan cooler unit operates for at least 15 minutes,

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- 2) Verifying a cooling water flow rate of greater than or equal to 1650* gpm to each cooler, and
 - 3) Verifying that each containment fan cooler unit starts on low speed.
- b. At least once each REFUELING INTERVAL by verifying that each containment fan cooler unit starts automatically on a Safety Injection test signal.

*The CFCU cooling water flow rate requirement of TS 4.6.2.3a.2) may not be met during Section XI testing and in Mode 4 during residual heat removal heat exchanger operation.