

PROPOSED TECHNICAL SPECIFICATION CHANGES

9303020467 930224  
PDR ADOCK 05000368  
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## EMERGENCY CORE COOLING SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

- 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. High-Pressure Safety Injection pump  $\geq 1360.4$  psid with 90°F water.
  2. Low-Pressure Safety Injection pump  $\geq 156.25$  psid with 90°F water.
- 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.
  2. At least once per 18 months.

<u>HPSI System</u>	<u>LPSI System</u>
<u>Valve Number</u>	<u>Valve Number</u>
a. 2CV-5035-1	a. 2CV-5037-1
b. 2CV-5015-1	b. 2CV-5017-1
c. 2CV-5075-1	c. 2CV-5077-2
d. 2CV-5055-1	d. 2CV-5057-2
e. 2CV-5036-2	
f. 2CV-5016-2	
g. 2CV-5076-2	
h. 2CV-5056-2	

- h. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystem that alter the subsystem flow characteristics and verifying the following flow rates:

#### HPSI System - Single Pump

The sum of the injection line flow rates, excluding the highest flow rate is greater than or equal to 570 gpm.

#### LPSI System - Single Pump

- a. Injection Leg 1,  $\geq 1059$  gpm
- b. Injection Leg 2,  $\geq 1059$  gpm
- c. Injection Leg 3,  $\geq 1059$  gpm
- d. Injection Leg 4,  $\geq 1059$  gpm

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### BASES

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The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that at a minimum, the assumptions used in the accident analyses are met and that subsystem OPERABILITY is maintained. Surveillance requirements of throttle valve position stops and flow balance testing provide assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses. The acceptance criteria specified in the Surveillance Requirements for HPSI single pump flow, HPSI differential pressure, and LPSI differential pressure does not account for instrument error.

### 3/4.5.4 REFUELING WATER TANK (RWT)

The OPERABILITY of the RWT as part of the ECCS ensures that a sufficient supply of borated water is available for injection by the ECCS and CSS in the event of a LOCA. The limits on RWT minimum volume and boron concentration ensure that 1) sufficient water is available within containment to permit recirculation cooling flow to the core, and (2) the reactor will remain subcritical in the cold condition following mixing of the RWT and the RCS water volumes with all control rods inserted except for the most reactive control assembly. These assumptions are consistent with the LOCA analyses.

The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.

The limits on contained water volume and boron concentration of the RWT also ensure a pH value of between 8.8 and 11.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.