EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - $T_{avg} \geq 350°F$

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent ECCS subsystems shall be OPERABLE with each subsystem comprised of:

a. One OPERABLE centrifugal charging pump,

b. One OPERABLE safety injection pump,

c. One OPERABLE residual heat removal heat exchanger,

d. One OPERABLE residual heat removal pump, and

e. An OPERABLE flow path capable of taking suction from the refueling water storage tank on a safety injection signal and transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours. (see footnote*)

b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

* The time for completion of repairs to the No. 22 Centrifugal Charging Pump shall be extended from 0527 hours on November 10, 1981 to 0527 hours on November 12, 1981. If repairs are not completed by that time, the unit shall be placed in HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS (Continued)

f. By verifying that each of the following pumps develops the indicated discharge pressure on recirculation flow when tested pursuant to Specification 4.0.5:

1. Centrifugal charging pump ≥ 2400 psig
2. Safety Injection pump ≥ 1425 psig
3. Residual heat removal pump ≥ 165 psig

g. By verifying the correct position of each of 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.

HPSI System Valve Number	LPSI System Valve Number
21 SJ 16	21 SJ 138
22 SJ 16	22 SJ 138
23 SJ 16	23 SJ 138
24 SJ 16	24 SJ 138
	21 SJ 143
	22 SJ 143
	23 SJ 143
	24 SJ 143

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: (see footnote*)

1. For safety injection lines, with a single pump running:
   a) The sum of the injection line flow rates, excluding the line with the highest flow rate, is ≥ 463 gpm, and
   b) The total pump flow rate is ≤ 650 gpm.
2. For centrifugal charging pump lines, with a single pump running:
   a) The sum of the injection line flow rates, excluding the line with the highest flow rate, is ≥ 346 gpm, and
   b) The total pump flow rate is ≤ 550 gpm.

* After completion of repairs to the No. 22 Centrifugal Charging Pump on or about November 12, 1981, the pump shall be tested pursuant to specification 4.0.5 and system performance calculations be performed to verify that pump characteristics are not significantly different. Flow balance testing pursuant to specification 4.5.2.h shall be performed at the next time the unit is in COLD SHUTDOWN.