

3/4.5 EMERGENCY CORE COOLING SYSTEMS

3/4.5.1 ACCUMULATORS

LIMITING CONDITION FOR OPERATION

3.5.1 Each Safety Injection System accumulator shall be OPERABLE with:

- a. The isolation valve open and power removed,
- b. A contained borated water volume of between 8800 and 9100 gallons,
- c. A boron concentration of between 2400 and ²⁷⁰⁰~~2600~~ ppm, and
- d. A nitrogen cover-pressure of between 590 and 670 psig.

APPLICABILITY: MODES 1, 2, and 3*.

ACTION:

- a. With one accumulator inoperable, except as a result of a closed isolation valve or the boron concentration outside the required limits, restore the inoperable accumulator to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.
- b. With one accumulator inoperable due to the isolation valve being closed, either open the isolation valve within 1 hour or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.
- c. With the boron concentration of one accumulator outside the required limit, restore the boron concentration to within the required limits within 72 hours or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.

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SURVEILLANCE REQUIREMENTS

4.5.1.1 Each accumulator shall be demonstrated OPERABLE:

- a. At least once per 24 hours by:
 - 1) Verifying, by the absence of alarms, the contained borated water volume and nitrogen cover-pressure in the tanks, and
 - 2) Verifying that each accumulator isolation valve is open.
- b. At least once per 31 days and within 6 hours after each solution volume increase of greater than or equal to 1% of tank volume by verifying the boron concentration of the accumulator solution; and

*Pressurizer pressure above 1000 psig.

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TABLE 6.3-1

EMERGENCY CORE COOLING SYSTEM
COMPONENT PARAMETERS

Accumulators

Number	3	
Design Pressure, psig	700	
Design Temperature, °F	300	
Operating Temperature, °F	100-150	
Normal Operating Pressure, psig	630	
Minimum Operating Pressure, psig	586	
Total Volume, ft ³	2500 each	36
Nominal Water Volume, ft ³	1200	
N ₂ Volume, ft ³	1300	55
Boron Concentration (as Boric Acid), ppm	2400	
Relief Valve Setpoint, psig	700	36

High Head Safety Injection Pumps

Number	3	
Design Pressure, psig	1750	
Design Temperature, °F	300	
*Design Flowrate, gal/min	800	
Design Head, ft	2850	
Max. Flowrate gal/min	1600	
Head at Max. Flowrate, ft.	1000	
Differential Head at Shutoff, ft. (Max)	3700	60
Motor Rating, hp	1000	
Required NPSH at Max. Flowrate, ft. (Max)	15	
Available NPSH, ft.	17.9	

* Includes miniflow

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