

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each emergency feedwater pump shall be demonstrated OPERABLE:

a. At least once per 31 days by:

1. Starting the pump.
2. Verifying that the motor driven pump develops a discharge pressure of ≥ 950 psig while recirculating back to the supply tanks.
3. Verifying that, on recirculation flow, the steam turbine driven pump develops a discharge pressure of ≥ 950 psig when the secondary steam pressure is greater than 100 psig.
4. Verifying that the pump operates for at least 15 minutes.
5. Cycling each testable manual and power operated valve in the flow path through at least one complete cycle of full travel.
6. Verifying that each valve in the flow path that could interrupt all emergency feedwater flow is locked open and the remaining valves are verified to be in the correct position.

b. At least once per 18 months during shutdown by:

1. Cycling each manual valve in the flow path that is not testable during plant operation, through at least one complete cycle of full travel.
2. Verifying that the steam turbine drive pump develops a discharge pressure of ≥ 950 psig at a flow of ≥ 80 gpm while feeding a steam generator and that the motor driven pumps each develop a discharge pressure of ≥ 950 psig with a flow of at least 80 gpm while feeding a steam generator.
3. Cycling each main feed control valve manually through at least one complete cycle of full travel.

c. Prior to startup from COLD SHUTDOWN by:

1. Verifying that each valve in the flow path from the emergency feedwater sources to the main feedwater and the steam generator blowdown lines is properly aligned to provide an uninterrupted flow path to the steam generators from the emergency feedwater system, and
2. Performing a flow test from the emergency feedwater sources to the steam generators to verify the normal flow path.

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BASES

- U = Maximum number of inoperable safety valves per operating steam generator
- (108) = Power Range and Intermediate Power Range Neutron Flux-High Trip Setpoint for 4 loop operation
- (81) = Maximum percent of RATED THERMAL POWER permissible for 3 loop operation
- X = Total relieving capacity of all safety valves per steam generator in lbs/hour
- Y = Maximum relieving capacity of any one safety valve in lbs/hour

3/4.7.1.2 EMERGENCY FEEDWATER SYSTEM

The OPERABILITY of the emergency feedwater system ensures that the Main Coolant System can be cooled down to less than 330°F from normal operating conditions in the event of a total loss of off-site power.

Each emergency feedwater pump is capable of delivering a total feedwater flow of 80 gpm at a pressure of 950 psig. This capacity is sufficient to ensure that adequate feedwater flow is available to remove decay heat and reduce the Main Coolant System temperature to less than 330°F when the Shutdown Cooling System may be placed into operation.

The monthly testing interval of the steam generator emergency feedwater pumps verifies their operability by recirculating water to the supply tank. Proper functioning of the emergency feedwater pumps will be made by direct visual observation.

3/4.7.1.3 PRIMARY AND DEMINERALIZED WATER STORAGE TANK

The OPERABILITY of the primary and demineralized water storage tanks with the minimum combined water volume ensures that sufficient water is available to maintain the Main Coolant System at HOT STANDBY in excess of 24 hours with steam discharge to the atmosphere concurrent with total loss of off-site power.