

3.4 TURBINE CYCLE

Applicability

Applies to the operating status of the turbine cycle when fuel is in the core and the capability of the decay removal system is exceeded.

Objective

To specify minimum conditions of the turbine cycle steam relieving capacity and emergency feedwater pumps to ensure capability to remove decay heat equivalent to five percent of full power.

Specification

The reactor coolant system shall not be heated above 250°F unless the following conditions are met:

- 3.4.1 Eighteen main steam safety valves shall be operable.
- 3.4.2 Four of the six turbine by-pass valves are operable.
- 3.4.3 The turbine driven emergency feedwater pump and two half-sized motor-driven emergency feedwater pumps shall be operable.
- 3.4.4 A minimum of 150,000 gallons of condensate available in the condensate storage tanks.
- 3.4.5 System piping and valves, directly associated with the above components operable.
- 3.4.6 Any component in 3.4.3 or 3.4.5 above, may be removed from service for purposes of maintenance for a period not to exceed 48 hours. If this period is exceeded, the unit will be placed in the cold shutdown condition within 12 hours thereafter.
- 3.4.7 One of the emergency feedwater pumps required by 3.4.3 may be removed from service for maintenance indefinitely provided that the reactor has never been operated at greater than 5% of rated thermal power.

Bases

A reactor shutdown from power requires removal of core decay heat. Normal decay heat removal is by the steam generator with the steam dump to the condenser when system temperature is above 250°F and by the decay heat removal system below 250°F. Therefore, core decay heat can be continuously dissipated up to 15 percent of full power via the steam bypass to the condenser as feedwater in the steam generator is converted to steam by heat absorption. Normally, the capability to return feedwater flow to the steam generators is provided by the main feedwater system.