ESF ACTUATION SETPOINTS AND TIME DELAYS TO ACTUATION ASSUMED IN NON-LOCA SAFETY ANALYSES

ESF Actuation Function	Nominal Setpoint	Limiting Actuation Setpoint Assumed In Analyses	Time Delay (Seconds)
Safety Injection (SI)			
- Low pressurizer pressure	1815 psig	1700 psig	27 w/offsite power [1]
			37 w/o offsite power [2]
- Low steamline pressure	600 psig	344 psig	27 w/offsite power (1)
			37 w/o offsite power (2)
Auxiliary Feedwater (AFW)			
- Low-low steam generator water level	21% of narrow range span	0.0% of narrow range span	60[3]
High-high steam generator Level Turbine Trip	67% of narrow range span	82% of narrow range span	2.5
Steamline Isolation on low steam line pressure	NA[4]	NA (4)	11[5]
Feedwater Line Isolation on high-high steam generator water level	67% of narrow range span	82% of narrow range span	11 [6]
Feedwater Line Isolation on low steam line pressure	NA (4)	NA (4)	8 (6)

[1] Emergency diesel generator starting and sequence loading delays NOT included. Offsite power available. Response time limit includes opening of valves to establish safety injection (SI) path and attainment of discharge pressure for centrifugal charging pumps. Sequential transfer of charging pump suction from the volume control tank (VCT) to the refueling water storage tank (RWST) (RWST valves open, then VCT valves close) is included.
[2] Emergency diesel generator starting and sequence loading delays included. Response time limit includes opening of valves to establish SI path and attainment of discharge pressure for centrifugal charging pumps. Sequential transfer of charging pump suction from the VCT to the RWST (RWST valves open, then VCT valve close) is included.
[3] For Loss of Normal Feedwater and Loss of Offsite Power to Station Auxiliaries occurrences, the delay time assumed is 60 seconds from the initiation of the signals. For Feedwater Line Break event, the delay time assumed is 600 seconds (10 minute operator action delay) from the initiation of the break.
[4] Not Applicable
[5] Steamline isolation total delay time includes valve closure time, and electronics and sensor delay. Technical Specifications require 8.0 second valve closure time.
[6] Feedwater Line isolation total delay time includes valve closure time and electronics and sensor delay time.