

Table 4.1-1

Minimum Frequencies for Checks, Calibrations and
Tests of Instrument Channels

Channel Description	Check	Calibrate	Test	Remarks
1. Nuclear Power Range	S	D (1) M (3)*1	Q (2)	1) Heat balance calibration 2) Signal to delta T; bistable action (permissive, rod stop, trips) 3) Upper and lower chambers for axial offset
2. Nuclear Intermediate Range	S (1)	N A	S/U (2)*2	1) Once/shift when in service 2) Bistable action (permissive, rod stop, trip)
3. Nuclear Source Range	S (1)	N A	S/U (2)*2	1) Once/shift when in service 2) Bistable action (alarm, trip)
4. Reactor Coolant Temperature	S	R#	Q (1)	Calibration of setpoint generators extended on a one time basis to 37 months 1) Overtemperature - delta T Overpower - delta T
5. Reactor Coolant Flow	S	R#	Q	Calibration of transmitters extended on a one time basis to 37 months.
6. Pressurizer Water Level	S	R#	Q	Calibration of transmitters extended on a one time basis to 37 months.
7. Pressurizer Pressure (High & Low)	S	R#	Q	Calibration of transmitters extended on a one time basis to 37 months.

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8.a 6.9 kV Voltage	N.A.	R##	Q	
8.b 6.9 kV Frequency	N.A.	R##	Q (1) R# (2)	1) Underfrequency relay actuation only. 2) The full test including RCP breaker trip upon underfrequency relay actuation and reactor trip logic relay actuation upon tripping of the RCP breaker.
9. Analog Rod Position	S	R#	M	
10. Rod Position Bank Counters	S	N.A.	N.A.	With analog rod position
11. Steam Generator Level	S	R#	Q	Calibration of transmitters extended on a one time basis to 37 months.
12. Charging Flow	N.A.	R#	N.A.	
13. Residual Heat Removal Pump Flow	N.A.	R##	N.A.	Calibration of transmitters extended on a one time basis to 37 months.
14. Boric Acid Tank Level	W	R#	N.A.	Bubbler tube rodded during calibration
15. Refueling Water Storage Tank Level	W	Q	N.A.	
16. DELETED				
17. Volume Control Tank Level	N.A.	R##	N.A.	
18a. Containment Pressure	D	R#	Q	Wide Range
18b. Containment Pressure	S	R#	Q	Narrow Range

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21e Containment Fan Cooler Condensate Flow	S	R#	M*3	Calibration of transmitters extended on a one time basis to 37 months.
22a Accumulator Level	S	R#	N.A.	Calibration of transmitters extended on a one time basis to 37 months.
22b Accumulator Pressure	S	R#	N.A.	Calibration of transmitters extended on a one time basis to 37 months.
23 Steam Line Pressure	S	R#	Q	Calibration of transmitters extended on a one time basis to 37 months.
24. Turbine First Stage Pressure	S	R#	Q	
25. Reactor Trip Logic Channel Testing	N.A.	N.A.	M*9	
26. Engineered Safety Features (SI) Logic Channel Testing	N.A.	N.A.	M*9	
27. Turbine Trip a. Low Auto Stop Oil Pressure	N.A.	R##	N.A.	
28. Control Rod Protection (for use with LOPAR fuel)	N.A.	R#	*4	

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29. Loss of Power				
a. 480v Emergency Bus Undervoltage (Loss of Voltage)	N.A.	R##	R##	
b. 480v Emergency Bus Undervoltage (Degraded Voltage)	S	R##	M	
c. 480v Emergency Bus Undervoltage (Alarm)	N.A.	R##	M	
30. Auxiliary Feedwater				
a. Steam Generator Water Level (Low-Low)	S	R#	R#	Calibration and testing of transmitters extended on a one time basis to 37 months.
b. Low-Low Level AFWS Automatic Actuation Logic	N.A.	N.A.	M	Test one logic channel per month on an alternating basis.
c. Station Blackout (Undervoltage)	N.A.	R##	R##	
d. Trip of Main Feedwater Pumps	N.A.	N.A.	R#	
31. Reactor Coolant System Subcooling Margin Monitor	M	R#	N.A.	
32. PORV Position Indicator (Limit Switch)	M	R#	R#	