

TABLE 2.2.1-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
1. Intermediate Range Monitor, Neutron Flux-High	$\leq 120/125$ divisions of full scale	$\leq 122/125$ divisions of full scale
2. Average Power Range Monitor:		
a. Neutron Flux-Upscale, Setdown	$\leq 15\%$ of RATED THERMAL POWER	$< 20\%$ of RATED THERMAL POWER
b. Flow Biased Simulated Thermal Power-Upscale		
1) Flow Biased	$0.58 W + 59\%$ $\leq 0.66 W + 51\%$, with a maximum of	$0.58 W + 62\%$ $\leq 0.66 W + 54\%$, with a maximum of
2) High Flow Clamped	$\leq 113.5\%$ of RATED THERMAL POWER	$\leq 115.5\%$ of RATED THERMAL POWER
c. Neutron Flux-Upscale	$\leq 118\%$ of RATED THERMAL POWER	$\leq 120\%$ of RATED THERMAL POWER
d. Inoperative	NA	NA
3. Reactor Vessel Steam Dome Pressure - High	≤ 1037 psig	≤ 1057 psig
4. Reactor Vessel Water Level - Low, Level 3	> 13.0 inches above instrument zero*	> 11.5 inches above instrument zero.
5. Main Steam Line Isolation Valve - Closure	$\leq 10\%$ closed	$\leq 11\%$ closed
6. Main Steam Line Radiation - High	$\leq 3.0 \times$ full power background.	$\leq 3.6 \times$ full power background
7. Drywell Pressure - High	< 1.72 psig	≤ 1.88 psig
8. Scram Discharge Volume Water Level - High	≤ 88 gallons	≤ 88 gallons
9. Turbine Stop Valve - Closure	$\leq 5.5\%$ closed	$\leq 7\%$ closed
10. Turbine Control Valve Fast Closure, Trip Oil Pressure - Low	≥ 500 psig	≥ 460 psig
11. Reactor Mode Switch Shutdown Position	NA	NA
12. Manual Scram	NA	NA

*See Bases Figure B 3/4 3-1.

ATTACHMENT A P 103

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POWER DISTRIBUTION LIMITS3/4.2.2 APRM SETPOINTSLIMITING CONDITION FOR OPERATION

3.2.2 The APRM flow biased simulated thermal power-upscale scram trip setpoint (S) and flow biased neutron flux-upscale control rod block trip setpoint (S_{RB}) shall be established according to the following relationships:

<u>Trip Setpoint</u>	<u>Allowable Value</u>
$S \leq \cancel{(0.66W + 51\%)}T (0.58W + 59\%)T$	$S \leq \cancel{(0.66W + 54\%)}T (0.58W + 62\%)T$
$S_{RB} \leq \cancel{(0.66W + 42\%)}T (0.58W + 50\%)T$	$S_{RB} \leq \cancel{(0.66W + 45\%)}T (0.58W + 53\%)T$

where: S and S_{RB} are in percent of RATED THERMAL POWER,
 W = Loop recirculation flow as a percentage of the loop recirculation flow which produces a rated core flow of 100 million lbs/hr,
 T = Lowest value of the ratio of FRACTION OF RATED THERMAL POWER divided by the MAXIMUM FRACTION OF LIMITING POWER DENSITY. T is always less than or equal to 1.0.

APPLICABILITY: OPERATIONAL CONDITION 1, when THERMAL POWER is greater than or equal to 25% of RATED THERMAL POWER.

ACTION:

With the APRM flow biased simulated thermal power-upscale scram trip setpoint and/or the flow biased neutron flux-upscale control rod block trip setpoint less conservative than the value shown in the Allowable Value column for S or S_{RB} , as above determined, initiate corrective action within 15 minutes and adjust S and/or S_{RB} to be consistent with the Trip Setpoint value* within 2 hours or reduce THERMAL POWER to less than 25% of RATED THERMAL POWER within the next 4 hours.

SURVEILLANCE REQUIREMENTS

4.2.2 The FRTP and the MFLPD shall be determined, the value of T calculated, and the most recent actual APRM flow biased simulated thermal power-upscale scram and flow biased neutron flux-upscale control rod block trip setpoints verified to be within the above limits or adjusted, as required:

- At least once per 24 hours,
- Within 12 hours after completion of a THERMAL POWER increase of at least 15% of RATED THERMAL POWER, and
- Initially and at least once per 12 hours when the reactor is operating with MFLPD greater than or equal to FRTP.

* With MFLPD greater than the FRTP during power ascension up to 90% of RATED THERMAL POWER, rather than adjusting the APRM setpoints, the APRM gain may be adjusted such that APRM readings are greater than or equal to 100% times MFLPD, provided that the adjusted APRM reading does not exceed 100% of RATED THERMAL POWER, the required gain adjustment increment does not exceed 10% of RATED THERMAL POWER, and a notice of the adjustment is posted on the reactor control panel.

TABLE 3.3.6-2

CONTROL ROD BLOCK INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. <u>ROD BLOCK MONITOR</u>		
a. Upscale	$< 0.66 W + 40\%$	$< 0.66 W + 43\%$
b. Inoperative	NA	NA
c. Downscale	$\geq 5/125$ divisions of full scale	$\geq 3/125$ of divisions full scale
2. <u>APRM</u>		
a. Flow Biased Neutron Flux - Upscale	$0.58 W + 50\%*$ $< 0.66 W + 42\%*$	$0.58 W + 53\%*$ $< 0.66 W + 45\%*$
b. Inoperative	NA	NA
c. Downscale	$\geq 5\%$ of RATED THERMAL POWER	$\geq 3\%$ of RATED THERMAL POWER
d. Neutron Flux - Upscale Startup	$\leq 12\%$ of RATED THERMAL POWER	$\leq 14\%$ of RATED THERMAL POWER
3. <u>SOURCE RANGE MONITORS</u>		
a. Detector not full in	NA	NA
b. Upscale	$< 2 \times 10^5$ cps	$< 4 \times 10^5$ cps
c. Inoperative	NA	NA
d. Downscale	≥ 3 cps**	≥ 2 cps**
4. <u>INTERMEDIATE RANGE MONITORS</u>		
a. Detector not full in	NA	NA
b. Upscale	$< 108/125$ divisions of full scale	$< 110/125$ divisions of full scale
c. Inoperative	NA	NA
d. Downscale	$\geq 5/125$ divisions of full scale	$\geq 3/125$ divisions of full scale
5. <u>SCRAM DISCHARGE VOLUME</u>		
a. Water Level - High	≤ 44 gallons	≤ 44 gallons
6. <u>REACTOR COOLANT SYSTEM RECIRCULATION FLOW</u>		
a. Upscale	$< 108/125$ divisions of full scale	$111/125$ divisions of full scale
b. Inoperative	NA	NA
c. Comparator	$\leq 10\%$ flow deviation	11% flow deviation

*The Average Power Range Monitor rod block function is varied as a function of recirculation loop flow (W). The trip setting of this function must be maintained in accordance with Specification 3.2.2. initial loading and startup the count rate must be > 0.5 cps.

