

2.5 LIMITING CONDITIONS FOR OPERATION  
2.10 Reactor Core (Continued)  
2.10.2 Reactivity Control Systems and Core Physics Parameters Limits

Applicability

Applies to operation of control element assemblies and monitoring of selected core parameters whenever the reactor is in cold or hot shutdown, hot standby, or power operation conditions.

Objective

To ensure (1) adequate shutdown margin following a reactor trip, (2) the MTC is within the limits of the safety analysis, and (3) control element assembly operation is within the limits of the setpoint and safety analysis.

Specification

(1) Shutdown Margin With  $T_{cold} > 210^{\circ}\text{F}$

Whenever the reactor is in hot shutdown, hot standby or power operation conditions, the shutdown margin shall be greater than or equal to the value specified in the COLR. With the shutdown margin less than the value specified in the COLR, initiate and continue boration until the required shutdown margin is achieved.

(2) Shutdown Margin With  $T_{cold} \leq 210^{\circ}\text{F}$

Whenever the reactor is in cold shutdown conditions, the shutdown margin shall be  $\geq 3.0\% \Delta k/k$ . With the shutdown margin  $< 3.0\% \Delta k/k$ , initiate and continue boration until the required shutdown margin is achieved.

(3) Moderator Temperature Coefficient

The moderator temperature coefficient (MTC) shall be:

- a. Less positive than  $+0.2 \times 10^{-4} \Delta \rho/^{\circ}\text{F}$  including uncertainties for power levels at or above 80% of rated power.
- b. Less positive than  $+0.5 \times 10^{-4} \Delta \rho/^{\circ}\text{F}$  including uncertainties for power levels below 80% of rated power.
- c. More positive than the value specified in the COLR including uncertainties at rated power.

With the moderator temperature coefficient confirmed outside any one of above limits, change reactivity control parameters to bring the extrapolated MTC value within the above limits within 3 hours or be in at least hot shutdown within 6 hours.