

POWER DISTRIBUTION LIMITS

BASES

HEAT FLUX HOT CHANNEL FACTOR, AND RCS FLOW RATE AND NUCLEAR ENTHALPY RISE HOT CHANNEL FACTOR (Continued)

Limit on the hot channel factor, $F_0(Z)$, is met. $V(Z)$ accounts for the effects of normal operation transients and was determined from expected power control maneuvers over the full range of burnup conditions in the core. The $V(Z)$ function is specified in the COLR.

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When RCS flow rate is measured, no additional allowance is necessary prior to comparison with the limit of Specification 3.2.3. A normal RCS flowrate error of 2.1% will be included in C_1 , which will be modified as discussed below.

The measurement error for RCS total flow rate is based upon performing a precision heat balance and using the result to calibrate the RCS flow rate indicators. Potential fouling of the feedwater venturi which might not be detected could bias the result from the precision heat balance in a non-conservative manner. Therefore, a penalty of 0.1% for undetected fouling of the feedwater venturi, raises the nominal flow measurement allowance, C_1 , to 2.2% for no venturi fouling. Any fouling which might bias the RCS flow rate measurement greater than 0.1% can be detected by monitoring and trending various plant performance parameters. If detected, action shall be taken before performing subsequent precision heat balance measurements, i.e., either the effect of the fouling shall be quantified and compensated for in the RCS flow rate measurement or the venturi shall be cleaned to eliminate the fouling.

The upper limit on measured RCS flow rate in Figure 3.2-3 $[321,300 \text{ gpm} \times (1.0 - C_1)]$ protects the mechanical design flow of 321,300 gpm per FSAR Table 5.1.0-1.

The 12-hour periodic surveillance of indicated RCS flow is sufficient to detect only flow degradation that could lead to operation outside the acceptable region of operation.

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