

(e.g. rod misalignment) affect $F_{\Delta H}^N$, in most cases without necessarily affecting F_0 , (b) the operator has a direct influence on F_0 through movement of rods, and can limit it to the desired value, he has no direct control over $F_{\Delta H}^N$ and (c) an error in the predictions for radial power shape, which may be detected during startup physics tests, can be compensated for in F_0 by tighter axial control, but compensation for $F_{\Delta H}^N$ is less readily available. When a measurement of $F_{\Delta H}^N$ is taken, no additional allowances are necessary prior to comparison with the limit of section 3.10.2. A measurement uncertainty of 4% has been allowed for in determination of the design DNBR value.

Measurements of the hot channel factors are required as part of startup physics tests, at least each effective full power month of operation, and whenever abnormal power distribution conditions require a reduction of core power to a level based on measured hot channel factors. The incore map taken following initial loading provides confirmation of the basic nuclear design basis including proper fuel loading patterns. The periodic monthly incore mapping provides additional assurance that the nuclear design bases remain inviolate and identify operational anomalies which would, otherwise, affect these bases.

For normal operation, it is not necessary to measure these quantities. Instead it has been determined that, provided certain conditions are observed, the hot channel factor limits will be met; these conditions are as follows:

1. Control rods in a single bank move together with no individual rod insertion differing by more than 15 inches from the group step counter demand position (operating at greater than 85% of rated thermal power with no accounting for peaking factor margin), or 18.75 inches (operating at less than or equal to 85% of rated thermal power). An indicated misalignment limit of 12 steps precludes a rod misalignment greater than 15 inches with consideration of instrumentation error and 18 steps indicated misalignment corresponds to 18.75 inches with instrumentation error.
2. Control Rod banks are sequenced with overlapping banks as described in Technical Specification 3.10.4.
3. The control rod bank insertion limits are not violated.

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