

- * (3) Low pressurizer pressure - ≥ 1855 psig for operation at 2250 psia primary system pressure
 ≥ 1790 psig for operation at 2000 psia primary system pressure

(4) Overtemperature ΔT

$$\frac{\Delta T_o}{1 + \tau_2 S} (K_1 - K_2 (T - T')) \frac{(1 + \tau_1 S) + K_3 (P - P')}{1 + \tau_2 S} - f(\Delta I)$$

where

ΔT_o = indicated ΔT at rated power, °F

T = average temperature, °F

T' = 574.2 °F

P = pressurizer pressure, psig

P' = 2235 psig

* K_1 ≤ 1.117 for operation at 2250 psia primary system pressure
 ≤ 1.30 for operation at 2000 psia primary system pressure

K_2 = 0.0150

K_3 = 0.000791

τ_1 = 25 sec

τ_2 = 3 sec

and $f(\Delta I)$ is an even function of the indicated difference between top and bottom detectors of the power-range nuclear ion chambers; with gains to be selected based on measured instrument response during plant startup tests, where q_t and q_b are the percent power in the top and bottom halves of the core respectively, and $q_t + q_b$ is total core power in percent of rated power, such that:

- (a) for $q_t - q_b$ within -17, +9 percent, $f(\Delta I) = 0$.
- (b) for each percent that the magnitude of $q_t - q_b$ exceeds +9 percent the ΔT trip set point shall be automatically reduced by an equivalent of two percent of rated power.

*Appropriate safety analyses shall be performed prior to shifting operation from one primary system pressure to the other.

G. OPERATIONAL LIMITATIONS

The following DNB related parameters shall be maintained within the limits shown during Rated Power operation:

1. T_{AVG} shall be maintained at or below 578°F.
- *2. Reactor coolant system pressure shall be maintained:
 \geq 2205 psig during operation at 2250 psia or,
 \geq 1955 psig during operation at 2000 psia.
3. Reactor Coolant System Total Flow Rate \geq 178,000 gpm.

Basis:

Although the operational limitations above require reactor coolant system total flow be maintained above a minimum rate, no direct means of measuring absolute flow during operation exist. However, during initial startup reactor coolant flow was measured and correlated to core ΔT . Therefore monitoring of ΔT may be used to verify the above minimum flow requirement is met. If a change in steady state full power ΔT greater than 3°F is observed, the actual flow measurements will be taken.

*See footnote, page 15.2.3-2

15.4.3 PRIMARY SYSTEM TESTING FOLLOWING OPENING

Applicability

Applies to test requirements for primary system integrity.

Objective

To specify tests for primary system integrity after the system is closed following normal opening, modification or repair.

Specification

- a) When the primary system is closed after it has been opened, the system will be leak tested at:
 - 1) Not less than 2335 psig for operation at 2250 psia primary system pressure, or
 - 2) Not less than 2085 psig for operation at 2000 psia primary system pressure.
- b) When primary system modifications or repairs have been made which involved new strength welds on components greater than 2 in. diameter, the new welds will receive both a surface and 100% volumetric non-destructive examination.
- c) When primary system modifications or repairs have been made which involve new strength welds on components 2 in. diameter or smaller, the new welds will receive a surface examination.

Basis

For normal opening the integrity of the system, in terms of strength, is unchanged. If the system does not leak at 2335 psig (operating pressure + 100 psi: \pm 100 psi is normal system pressure fluctuation), it should be leak tight during normal operation at 2250 psia. If the system does not leak at 2085 it should be leak tight during normal operation at 2000 psia.