

Attachment II

Marked Up Copy of R.E. Ginna Nuclear Power Plant
Technical Specifications

Instructions:

Remove pages 3.3-18 and 3.3-19 and replace with the attached pages.

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Table 3.3.1-1 (page 5 of 6)
Reactor Trip System Instrumentation

Note 1: Overtemperature ΔT

The Overtemperature ΔT Function Trip Setpoint is defined by:

$$\text{Overtemperature } \Delta T \leq \Delta T_o \left\{ K_1 + K_2 (P - P') - K_3 (T - T') \left[\frac{1 + \tau_1 s}{1 + \tau_2 s} \right] - f(\Delta I) \right\}$$

Where:

ΔT is measured RCS ΔT , °F.

ΔT_o is the indicated ΔT at RTP, °F.

s is the Laplace transform operator, sec^{-1} .

T is the measured RCS average temperature, °F.

T' is the nominal T_{avg} at RTP, °F.

P is the measured pressurizer pressure, psig.

P' is the nominal RCS operating pressure, psig.

K_1 is the Overtemperature ΔT reactor trip setpoint, 1.20.

K_2 is the Overtemperature ΔT reactor trip depressurization setpoint penalty coefficient, 0.000900 $\frac{1}{\text{psi}}$

K_3 is the Overtemperature ΔT reactor trip heatup setpoint penalty coefficient, 0.0209 $\frac{1}{\text{°F}}$

τ_1 is the measured lead/lag time constant, 25 seconds.

τ_2 is the measured lead/lag time constant, 5 seconds.

$f(\Delta I)$ is a function of the indicated difference between the top and bottom detectors of the Power Range Neutron Flux channels 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 the total THERMAL POWER in percent RTP.

q_b $f(\Delta I) = 0$ when $q_t - q_b$ is $\leq +13\%$ RTP

$f(\Delta I) = 1.3 \{ (q_t - q_b) - 13 \}$ when $q_t - q_b$ is $> +13\%$ RTP

3.ii

3.ii

Table 3.3.1-1 (page 6 of 6)
Reactor Trip System Instrumentation

Note 2: Overpower ΔT

The Overpower ΔT Function Trip Setpoint is defined by:

$$\text{Overpower } \Delta T \leq \Delta T_0 \left\{ K_4 - K_5 (T - T') - K_6 \left[\frac{\tau_3 s T}{\tau_3 s + 1} \right] - f(\Delta I) \right\}$$

Where:

ΔT is measured RCS ΔT , °F.

ΔT_0 is the indicated ΔT at RTP, °F.

s is the Laplace transform operator, sec^{-1} .

T is the measured RCS average temperature, °F.

T' is the nominal T_{avg} at RTP, °F.

K_4 is the Overpower ΔT reactor trip setpoint, 1.077.

K_5 is the Overpower ΔT reactor trip heatup setpoint penalty coefficient which is:

0.0 for $T < T'$ and;
0.0011 for $T \geq T'$

K_6 is the Overpower ΔT reactor trip thermal time delay setpoint penalty which is:

0.0262 for increasing T and;
0.00 for decreasing T .

τ_3 is the measured lead/lag time constant, 10 seconds.

$f(\Delta I)$ is a function of the indicated difference between the top and bottom detectors of the Power Range Neutron Flux channels 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 the total THERMAL POWER in percent RTP.

$f(\Delta I) = 0$

when $q_t - q_b$ is \leq +13% RTP

$f(\Delta I) = 1.3 \{ (q_t - q_b) - 13 \}$

when $q_t - q_b$ is $>$ +13% RTP

3.ii

1°F

1°F

3.ii

Attachment III

Proposed Technical Specifications

Instructions:

Remove pages 3.3-18 and 3.3-19 and replace with the attached pages.

Table 3.3.1-1 (page 5 of 6)
Reactor Trip System Instrumentation

Note 1: Overtemperature ΔT

The Overtemperature ΔT Function Trip Setpoint is defined by:

$$\text{Overtemperature } \Delta T \leq \Delta T_o \left\{ K_1 + K_2 (P - P') - K_3 (T - T') \left[\frac{1 + \tau_1 s}{1 + \tau_2 s} \right] - f(\Delta I) \right\}$$

Where:

ΔT is measured RCS ΔT , °F.

ΔT_o is the indicated ΔT at RTP, °F.

s is the Laplace transform operator, sec^{-1} .

T is the measured RCS average temperature, °F.

T' is the nominal T_{avg} at RTP, °F.

P is the measured pressurizer pressure, psig.

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K_1 is the Overtemperature ΔT reactor trip setpoint, 1.20.

K_2 is the Overtemperature ΔT reactor trip depressurization setpoint penalty coefficient, 0.000900/psi.

K_3 is the Overtemperature ΔT reactor trip heatup setpoint penalty coefficient, 0.0209/°F.

τ_1 is the measured lead/lag time constant, 25 seconds.

τ_2 is the measured lead/lag time constant, 5 seconds.

$f(\Delta I)$ is a function of the indicated difference between the top and bottom detectors of the Power Range Neutron Flux channels 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 the total THERMAL POWER in percent RTP.

$$f(\Delta I) = 0$$

when $q_t - q_b$ is $\leq +13\%$ RTP

$$f(\Delta I) = 1.3 \{ (q_t - q_b) - 13 \}$$

when $q_t - q_b$ is $> +13\%$ RTP

Table 3.3.1-1 (page 6 of 6)
Reactor Trip System Instrumentation

Note 2: Overpower ΔT

The Overpower ΔT Function Trip Setpoint is defined by:

$$\text{Overpower } \Delta T \leq \Delta T_0 \left\{ K_4 - K_5 (T - T') - K_6 \left[\frac{\tau_3 s T}{\tau_3 s + 1} \right] - f(\Delta I) \right\}$$

Where:

ΔT is measured RCS ΔT , °F.

ΔT_0 is the indicated ΔT at RTP, °F.

s is the Laplace transform operator, sec^{-1} .

T is the measured RCS average temperature, °F.

T' is the nominal T_{avg} at RTP, °F.

K_4 is the Overpower ΔT reactor trip setpoint, 1.077.

K_5 is the Overpower ΔT reactor trip heatup setpoint penalty coefficient which is:

0.0/°F for $T < T'$ and;

0.0011/°F for $T \geq T'$.

K_6 is the Overpower ΔT reactor trip thermal time delay setpoint penalty

which is:

0.0262/°F for increasing T and;

0.00/°F for decreasing T .

τ_3 is the measured lead/lag time constant, 10 seconds.

$f(\Delta I)$ is a function of the indicated difference between the top and bottom detectors of the Power Range Neutron Flux channels 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 the total THERMAL POWER in percent RTP.

$$f(\Delta I) = 0$$

when $q_t - q_b$ is $\leq +13\%$ RTP

$$f(\Delta I) = 1.3 \{ (q_t - q_b) - 13 \}$$

when $q_t - q_b$ is $> +13\%$ RTP

