TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUE
12. Steam Generator Water Level Low-Low		
a. Unit 1	≥10.7% of narrow range span ~~≥17% of span from 0% to 30% RTP* increasing linearly to ≥40.0% of span from 30% to 100% RTP*~~	≥9% of narrow range span ~~≥15.3% of span from 0% to 30% RTP* increasing linearly to ≥38.3% of span from 30% to 100% RTP*~~
b. Unit 2	≥36.8% of narrow range span	≥35.1% of narrow range span
13. Undervoltage - Reactor Coolant Pumps	≥77% of bus voltage (5082 volts) with a 0.7s response time	≥76% (5016 volts)
14. Underfrequency - Reactor Coolant Pumps	≥56.4 Hz with a 0.2s response time	≥55.9 Hz
15. Turbine Trip		
a. Stop Valve EH Pressure Low	≥550 psig	≥500 psig
b. Turbine Stop Valve Closure	≥1% open	≥1% open
16. Safety Injection Input from ESF	N.A.	N.A.

*RTP = RATED THERMAL POWER

TABLE 2.2-1 (Continued)

TABLE NOTATIONS (Continued)

NOTE 1: (Continued)

T' ≤ ~~590.0°F~~ 581.5°F (Nominal T_{avg} allowed by Safety Analysis);

K_3 = Overtemperature ΔT reactor trip depressurization setpoint penalty coefficient as presented in the Core Operating Limits Report;

P = Pressurizer pressure, psig;

P' = 2235 psig (Nominal RCS operating pressure);

S = Laplace transform operator, s^{-1};

and $f_1(\Delta I)$ is a function of the indicated difference between top and bottom detectors of the power-range neutron ion chambers; with gains to be selected based on measured instrument response during plant STARTUP tests such that:

(i) For $q_t - q_b$ between the "positive" and "negative" $f_1(\Delta I)$ breakpoints as presented in the Core Operating Limits Report;

$f_1(\Delta I) = 0$, where q_t and q_b are percent RATED THERMAL POWER in the top and bottom halves of the core respectively, and $q_t + q_b$ is total THERMAL POWER in percent of RATED THERMAL POWER;

(ii) For each percent ΔI that the magnitude of $q_t - q_b$ is more negative than the $f_1(\Delta I)$ "negative" breakpoint presented in the Core Operating Limits Report, the ΔT Trip Setpoint shall be automatically reduced by the $f_1(\Delta I)$ "negative" slope presented in the Core Operating Limits Report; and

(iii) For each percent ΔI that the magnitude of $q_t - q_b$ is more positive than the $f_1(\Delta I)$ "positive" breakpoint presented in the Core Operating Limits Report, the ΔT Trip Setpoint shall be automatically reduced by the $f_1(\Delta I)$ "positive" slope presented in the Core Operating Limits Report.

NOTE 2: The channel's maximum Trip Setpoint shall not exceed its computed Trip Setpoint by more than 4.5% of Rated Thermal Power.

TABLE 2.2-1 (Continued)
TABLE NOTATIONS (Continued)

NOTE 3: (Continued)

K_6 = Overpower ΔT reactor trip heatup setpoint penalty coefficient as presented in the Core Operating Limits Report for $T > 590.8°F$ and $K_6 = 0$ for $T \leq 590.8°F$.

T = As defined in Note 1,

T" = Indicated T_{avg} at RATED THERMAL POWER (Calibration temperature for ΔT instrumentation, ≤ ~~590.8°F~~), 585.1°F

S = As defined in Note 1,

and f_2 (ΔI) is a function of the indicated differences between top and bottom detectors of the power-range neutron ion chambers; with gains to be selected based on measured instrument response during plant startup tests such that:

(i) for $q_t - q_b$ between the "positive" and "negative" $f_2(\Delta I)$ breakpoints as presented in the Core Operating Limits Report; $f_2(\Delta I) = 0$, where q_t and q_b are percent RATED THERMAL POWER in the top and bottom halves of the core respectively, and $q_t + q_b$ is total THERMAL POWER in percent of RATED THERMAL POWER;

(ii) for each percent ΔI that the magnitude of $q_t - q_b$ is more negative than the $f_2(\Delta I)$ "negative" breakpoint presented in the Core Operating Limits Report, the ΔT Trip Setpoint shall be automatically reduced by the $f_2(\Delta I)$ "negative" slope presented in the Core Operating Limits Report; and

(iii) for each percent ΔI that magnitude of $q_t - q_b$ is more positive than the $f_2(\Delta I)$ "positive" breakpoint presented in the Core Operating Limits Report the ΔT Trip Setpoint shall be automatically reduced by the $f_2(\Delta I)$ "positive" slope presented in the Core Operating Limits Report.

NOTE 4: The channel's maximum Trip Setpoint shall not exceed its computed Trip Setpoint by more than 3.0% (Unit 1) and 3.3% (Unit 2) of Rated Thermal Power.

Proposed revision to Technical Specification Table 2.2-1 Reactor Trip System Instrumentation Trip Setpoints

In Note 1

change "T′ ≤ 590.8 ° F (Nominal T_{AVG} allowed by Safety Analysis)"

to "T′ ≤ 585.1 ° F, (Nominal T_{AVG} allowed by Safety Analysis)"

In Note 3

change "T″ = Indicated T_{AVG} at RATED THERMAL POWER (Calibration temperature for ΔT instrumentation, ≤ 590.8 °F)"

to "T″ = Indicated T_{AVG} at RATED THERMAL POWER (Calibration temperature for ΔT instrumentation, ≤ 585.1 °F)"

Technical Justification

The values for T′ and T″ are defined as T_{AVG} Allowed by Safety Analysis and Reference T_{AVG} at RATED THERMAL POWER respectively. In Note 1 and 3 of Table 2.2-1. When the steam generators are replaced at Catawba Unit 1, programmed full power T_{AVG} will be changed from 590.8 °F to 585.1 ° F. This temperature was chosen based on returning the secondary side steam pressure to the original value after replacement of the steam generators. 585.1 ° F was the assumed value for nominal full power T_{AVG} in all applicable safety analyses related to replacement of the steam generators.

No Significant Hazards Analysis

The following analysis, required by 50.91, concludes that the proposed amendment will not involve significant hazards considerations as defined by 10 CFR 50.92.

10 CFR 50.92 states that a proposed amendment involves no significant hazards considerations if operation in accordance with the proposed amendment would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

This proposed change to the Technical Specifications does not involve a significant increase in the probability or consequences of an accident previously evaluated. Changing the value for T_{AVG} in Notes 1 and 3 of Table 2.2-1 will update the value to agree with the T_{AVG} assumed in the applicable safety analyses for replacement of the steam generators. Acceptable results were obtained for all required reanalyses. The probability of an accident will not be significantly affected by operation with the new T_{AVG} value, because all equipment will be operated within acceptable design limits. The consequences of previously evaluated accidents which are affected by this change have been evaluated, and have been determined to be within acceptable limits.

This proposed change will not create the possibility of a new or different kind of accident from any previously evaluated. This change does not change the physical configuration of the plant, and all analyses which are affected by replacement of the steam generators have been determined to have acceptable results assuming this value for T_{AVG}.

This proposed change to the Technical Specifications will not involve a significant reduction in the margin of safety. All safety analyses which were affected by replacement of the steam generators assumed this value for T_{AVG} and the results were determined to be within previously acceptable limits.

Attachment 3