Docket No. 50-423
B16514

Attachment 2

Millstone Nuclear Power Station Unit No. 3
Proposed Revision to Technical Specification
Reactor Trip System Setpoints
(PTSCR 3-20-97)
Marked Up Page(s)

June 1997

MARKUP OF PROPOSED REVISION

Refer to the attached markup of the proposed revision to the Technical Specifications. The attached markup reflects the currently issued version of the Technical Specifications listed below. Pending Technical Specification revisions or Technical Specification revisions issued subsequent to this submittal are not reflected in the enclosed markup.

Proposed Revision to Technical Specifications letter B15306, dated July 26, 1995, affecting pages 2-9, 2-10, 2-11, and 2-12 is not reflected in the enclosed "Markup."

The following Technical Specification changes are included in the attached markup:

- Table Notations Note 1: Overtemperature ΔT is replaced with the attached. Changes include: Certain function constants are deleted. Loop Specific indicated ΔT relocated to the left side of the algorithm. Constant definitions have been updated with minor wording changes and by changing "=" to "is". Numeric constants redefined using either "≤" or "≥"

- Table Notations Note 3: OverPower ΔT is replaced with the attached. Changes include: Certain function constants are deleted. Loop Specific indicated ΔT relocated to the left side of the algorithm. Definitions have been updated with minor wording changes and by changing "=" to "is". Numeric constants redefined using either "≤" or "≥"

  Table 2.2-1 Notes 1 and 3

- Associated Bases changes

  Bases 2.2.1 - Overtemperature ΔT

TABLE 2.2-1 (Continued)

TABLE NOTATIONS

NOTE 1: OVERTEMPERATURE ΔT

$$\Delta T \frac{(1 + \tau_1 S)}{(1 + \tau_2 S)} \left(\frac{1}{1 + \tau_3 S}\right) \leq \Delta T_0 \left\{K_1 - K_2 \frac{(1 + \tau_4 S)}{(1 + \tau_5 S)} \left[T \left(\frac{1}{1 + \tau_6 S}\right) - T'\right] + K_3 (P - P') - f_1(\Delta I)\right\}$$

REPLACE WITH ATTACHED

Where:	ΔT	= Measured ΔT by Reactor Coolant System Instrumentation;
	$\frac{1 + \tau_1 S}{1 + \tau_2 S}$	= Lead-lag compensator on measured ΔT;
	τ_1, τ_2	= Time constants utilized in lead-lag compensator for ΔT, $\tau_1 \geq 8$ s, $\tau_2 \leq 3$ s;
	$\frac{1}{1 + \tau_3 S}$	= Lag compensator on measured ΔT;
	τ_3	= Time constants utilized in the lag compensator for ΔT, $\tau_3 = 0$ s;
	ΔT_0	= Indicated ΔT at RATED THERMAL POWER;
	K_1	= 1.20 (Four Loops Operating); 1.20 (Three Loops Operating);
	K_2	= 0.02456;
	$\frac{1 + \tau_4 S}{1 + \tau_5 S}$	= The function generated by the lead-lag compensator for T_{avg} dynamic compensation;
	τ_4, τ_5	= Time constants utilized in the lead-lag compensator for T_{avg}, $\tau_4 \geq 20$ s, $\tau_5 \leq 4$ s;
	T	= Average temperature, °F;
	$\frac{1}{1 + \tau_6 S}$	= Lag compensator on measured T_{avg};
	τ_6	= Time constant utilized in the measured T_{avg} lag compensator, $\tau_6 = 0$ s;

TABLE 2.2-1 (Continued)

TABLE NOTATIONS (Continued)

NOTE 1: (Continued)

REPLACE WITH ATTACHED

T' $\le$ 587.1°F (Nominal T_{avg} at RATED THERMAL POWER);

K_3 = 0.001311/psi;

P = Pressurizer pressure, psia;

P' = 2250 psia (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:

(1) For $q_t - q_b$ between -26% and + 3%, $f_1(\Delta I) = 0$, 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;

(2) For each percent that the magnitude of $q_t - q_b$ exceeds -26%, the ΔT Trip Setpoint shall be automatically reduced by 3.55% of its value at RATED THERMAL POWER; and

(3) For each percent that the magnitude of $q_t - q_b$ exceeds +3%, the ΔT Trip Setpoint shall be automatically reduced by 1.98% of its value at RATED THERMAL POWER.

NOTE 2: The channel's maximum Trip Setpoint shall not exceed its computed Trip Setpoint by more than 1.4% ΔT span (Four Loop Operation); 2.7% ΔT span (Three Loop Operation).

NOTE 1: OVERTEMPERATURE ΔT

$$\left(\frac{\Delta T}{\Delta T_0}\right)\frac{(1+\tau_1 s)}{(1+\tau_2 s)} \le K_1 - K_2\frac{(1+\tau_4 s)}{(1+\tau_5 s)}(T-T') + K_3(P-P') - f_1(\Delta I)$$

Where: ΔT is measured Reactor Coolant System ΔT, °F;

ΔT_0 is loop specific indicated ΔT at RATED THERMAL POWER, °F;

$\frac{(1+\tau_1 s)}{(1+\tau_2 s)}$ is the function generated by the lead-lag compensator on measured ΔT;

τ_1 and τ_2 are the time constants utilized in the lead lag compensator for ΔT, $\tau_1 \ge 8$ sec, $\tau_2 \le 3$ sec;

$K_1 \le 1.20$ (Four Loops Operating); ≤ 1.20 (Three Loops Operating);

$K_2 \ge 0.02456/$ °F;

$\frac{(1+\tau_4 s)}{(1+\tau_5 s)}$ is the function generated by the lead-lag compensator for T_{avg};

τ_4 and τ_5 are the time constants utilized in the lead-lag compensator for T_{avg}, $\tau_4 \ge 20$ sec, $\tau_5 \le 4$ sec;

T is measured Reactor Coolant System average temperature, °F;

T' is loop specific indicated Tavg at RATED THERMAL POWER, ≤ 587.1°F;

$K_3 \ge 0.001311/$ psi

P is measured pressurizer pressure, psia;

P' is nominal pressurizer pressure, ≥ 2250 psia;

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

NOTE 1: (Continued)

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 nominal gains to be selected based on measured instrument response during plant startup tests calibrations such that:

(1) For $q_t - q_b$ between -26% and + 3%, $f_1(\Delta I) \geq 0$, where q_t and q_b are percent RATED THERMAL POWER in the upper and lower halves of the core, respectively, and $q_t + q_b$ is the total THERMAL POWER in percent RATED THERMAL POWER;

(2) For each percent that the magnitude of $q_t - q_b$ exceeds -26%, the ΔT Trip Setpoint shall be automatically reduced by ≥3.55% of its value at RATED THERMAL POWER;

(3) For each percent that the magnitude of $q_t - q_b$ exceeds +3%, the ΔT Trip Setpoint shall be automatically reduced by ≥1.98% of its value at RATED THERMAL POWER.

TABLE 2.2-1 (Continued)

TABLE NOTATIONS (Continued)

NOTE 3: OVERPOWER ΔT

$$\Delta T \frac{(1 + \tau_1 S)}{(1 + \tau_2 S)} \left(\frac{1}{1 + \tau_3 S}\right) \leq \Delta T_0 \{K_4 - K_5 \left(\frac{\tau_7 S}{1 + \tau_7 S}\right) \left(\frac{1}{1 + \tau_6 S}\right) T - K_6 [T \left(\frac{1}{1 + \tau_6 S}\right) - T''] - f_2 (\Delta I)\}$$

Where: ΔT = As defined in Note 1,

$\frac{1 + \tau_1 S}{1 + \tau_2 S}$ = As defined in Note 1,

τ_1, τ_2 = As defined in Note 1,

$\frac{1}{1 + \tau_3 S}$ = As defined in Note 1,

τ_3 = As defined in Note 1,

ΔT_0 = As defined in Note 1,

K_4 = 1.09,

K_5 = 0.02/°F for increasing average temperature and 0 for decreasing average temperature,

$\frac{\tau_7 S}{1 + \tau_7 S}$ = The function generated by the rate-lag compensator for T_{avg} dynamic compensation,

τ_7 = Time constants utilized in the rate-lag compensator for T_{avg}, $\tau_7 \geq 10$ s,

$\frac{1}{1 + \tau_6 S}$ = As defined in Note 1,

τ_6 = As defined in Note 1,

REPLACE WITH ATTACHED

TABLE 2.2-1 (Continued)

TABLE NOTATIONS (Continued)

NOTE 3: (Continued)

REPLACE WITH ATTACHED

K_6 = 0.00180/°F for T > T" and K_6 = 0 for T ≤ T",

T = As defined in Note 1,

T" = Indicated T_{avg} at RATED THERMAL POWER (Calibration temperature for ΔT instrumentation, ≤ 587.1°F),

S = As defined in Note 1, and

$f_2(\Delta I)$ = 0 for all ΔI.

NOTE 4: The channel's maximum Trip Setpoint shall not exceed its computed Trip Setpoint by more than 2.7% ΔT span. (Four Loop Operation)

1

NOTE 5: Setpoint is for increasing power.

NOTE 6: Setpoint is for decreasing power.

May 23, 1995

NOTE 3: OVERPOWER ΔT

$$\left(\frac{\Delta T}{\Delta T_0}\right)\frac{(1+\tau_1 s)}{(1+\tau_2 s)} \leq K_4 - K_5\frac{(\tau_7 s)}{(1+\tau_7 s)}T - K_6(T - T'')$$

Where: ΔT is measured Reactor Coolant System ΔT, °F;

ΔT_0 is loop specific indicated ΔT at RATED THERMAL POWER, °F;

$\frac{(1+\tau_1 s)}{(1+\tau_2 s)}$ is the function generated by the lead-lag compensator on measured ΔT;

τ_1 and τ_2 are the time constants utilized in the lead lag compensator for ΔT, $\tau_1 \geq 8$ sec, $\tau_2 \leq 3$ sec;

$K_4 \leq 1.09$;

$K_5 \geq 0.02$/°F for increasing Tavg and $K_5 \leq 0$ for decreasing T_{avg};

$\frac{(\tau_7 s)}{(1+\tau_7 s)}$ is the function generated by the rate-lag compensator for Tavg;

τ_7 is the time constant utilized the rate-lag compensator for Tavg, $\tau_7 \geq 10$ sec;

T is measured average Reactor Coolant System temperature, °F;

T" is loop specific indicated Tavg at RATED THERMAL POWER, ≤ 587.1°F;

$K_6 \geq 0.00180$/ °F when T >T" and $K_6 \leq 0$/°F when T ≤ T" ;

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

Intermediate and Source Range, Neutron Flux

The Intermediate and Source Range, Neutron Flux trips provide core protection during reactor startup to mitigate the consequences of an uncontrolled rod cluster control assembly bank withdrawal from a subcritical condition. These trips provide redundant protection to the Low Setpoint trip of the Power Range, Neutron Flux channels. The Source Range channels will initiate a Reactor trip at about 10^5 counts per second unless manually blocked when P-6 becomes active. The Intermediate Range channels will initiate a Reactor trip at a current level equivalent to approximately 25% of RATED THERMAL POWER unless manually blocked when P-10 becomes active. No credit was taken for operation of the trips associated with either the Intermediate or Source Range Channels in the accident analyses; however, their functional capability at the specified trip settings is required by this specification to enhance the overall reliability of the Reactor Trip System.

Overtemperature ΔT

The Overtemperature ΔT trip provides core protection to prevent DNB for all combinations of pressure, power, coolant temperature, and axial power distribution, provided that the transient is slow with respect to piping transit delays from the core to the temperature detectors, and pressure is within the range between the Pressurizer High and Low Pressure trips. The Setpoint is automatically varied with: (1) coolant temperature to correct for temperature induced changes in density and heat capacity of water and includes dynamic compensation for piping delays from the core to the loop temperature detectors, (2) pressurizer pressure, and (3) axial power distribution. With normal axial power distribution, this Reactor trip limit is always below the core Safety Limit as shown in Figure 2.1-1. If axial peaks are greater than design, as indicated by the difference between top and bottom power range nuclear detectors, the Reactor trip is automatically reduced according to the notations in Table 2.2-1. (INSERT ATTACHED)

Operation with a reactor coolant loop out of service requires Reactor Trip System modification. Three loop operation is permissible after resetting the K1 input to the Overtemperature ΔT channels, reducing the Power Range Neutron Flux High setpoint to a value just above the three loop maximum permissible power level, and resetting the P-8 setpoint to its three loop value. These modifications have been chosen so that, in three loop operation, each component of the Reactor Trip System performs its normal four loop function, prevents operation outside the safety limit curves, and prevents the DNBR from going below the design limit during normal operational and anticipated transients. 1

Overpower ΔT

The Overpower ΔT trip provides assurance of fuel integrity (e.g., no fuel pellet melting and less than 1% cladding strain) under all possible overpower conditions, limits the required range for Overtemperature ΔT

Insert the following in the Bases for Overtemperature ΔT:

> "Although a direction of conservatism is identified for the Overtemperature ΔT reactor trip function K_2 and K_3 gains, the gains should be set as close as possible to the values contained in Note 1 to ensure that the Overtemperature ΔT setpoint is consistent with the assumptions of the safety analyses."

Docket No. 50-423
B16514

Attachment 3

Millstone Nuclear Power Station Unit No. 3
Proposed Revision to Technical Specification
Reactor Trip System Setpoints
(PTSCR 3-20-97)
Retyped Page(s)

June 1997

RETYPE OF PROPOSED REVISION

Refer to the attached retype of the proposed revision to the Technical Specifications. The attached retype reflects the currently issued version of the Technical Specifications. Pending Technical Specification revisions or Technical Specification revisions issued subsequent to this submittal are not reflected in the enclosed retype. The enclosed retype should be checked for continuity with Technical Specifications prior to issuance.

Proposed Revision to Technical Specifications letter B15306, dated July 26, 1995, affecting pages 2-9, 2-10, 2-11, and 2-12 is not reflected in the enclosed "Retype."

TABLE NOTATIONS

NOTE 1: OVERTEMPERATURE ΔT

$$\left(\frac{\Delta T}{\Delta T_0}\right)\frac{(1+\tau_1 s)}{(1+\tau_2 s)} \le K_1 - K_2 \frac{(1+\tau_4 s)}{(1+\tau_5 s)}(T - T') + K_3(P - P') - f_1(\Delta I)$$

Where: ΔT is measured Reactor Coolant System ΔT, °F;

ΔT_0 is loop specific indicated ΔT at RATED THERMAL POWER, °F;

$\frac{(1+\tau_1 s)}{(1+\tau_2 s)}$ is the function generated by the lead-lag compensator on measured ΔT;

τ_1 and τ_2 are the time constants utilized in the lead-lag compensator for ΔT, $\tau_1 \geq 8$ sec, $\tau_2 \leq 3$ sec;

$K_1 \leq 1.20$ (Four Loops Operating); ≤ 1.20 (Three Loops Operating);

$K_2 \geq 0.02456$/°F;

$\frac{(1+\tau_4 s)}{(1+\tau_5 s)}$ is the function generated by the lead-lag compensator for T_{avg};

τ_4 and τ_5 are the time constants utilized in the lead-lag compensator for T_{avg}, $\tau_4 \geq 20$ sec, $\tau_5 \leq 4$ sec;

T is measured Reactor Coolant System average temperature, °F;

T′ is loop specific indicated Tavg at RATED THERMAL POWER, $\leq$ 587.1°F;

$K_3 \geq 0.001311$/psi

P is measured pressurizer pressure, psia;

P′ is nominal pressurizer pressure, $\geq$ 2250 psia;

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

TABLE 2.2-1 (Continued)

TABLE NOTATIONS (Continued)

NOTE 1: (Continued)

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 nominal gains to be selected based on measured instrument response during plant startup tests calibrations such that:

(1) For $q_t - q_b$ between -26% and +3%, $f_1(\Delta I) \geq 0$, where q_t and q_b are percent RATED THERMAL POWER in the upper and lower halves of the core, respectively, and $q_t + q_b$ is the total THERMAL POWER in percent RATED THERMAL POWER;

(2) For each percent that the magnitude of $q_t - q_b$ exceeds -26%, the ΔT Trip Setpoint shall be automatically reduced by ≥ 3.55% of its value at RATED THERMAL POWER.

(3) For each percent that the magnitude of $q_t - q_b$ exceeds +3%, the ΔT Trip Setpoint shall be automatically reduced by ≥ 1.98% of its value at RATED THERMAL POWER.

NOTE 2: The channel's maximum Trip Setpoint shall not exceed its computed Trip Setpoint by more than 1.4% ΔT span (Four Loop Operation); 2.7% ΔT span (Three Loop Operation).

TABLE 2.2-1 (Continued)

TABLE NOTATIONS (Continued)

NOTE 3: OVERPOWER ΔT

$$\left(\frac{\Delta T}{\Delta T_0}\right)\frac{(1+\tau_1 s)}{(1+\tau_2 s)} \le K_4 - K_5 \frac{(\tau_7 s)}{(1+\tau_7 s)} T - K_6 (T - T'')$$

Where: ΔT is measured Reactor Coolant System ΔT, °F;

ΔT_0 is loop specific indicated ΔT at RATED THERMAL POWER, °F;

$\frac{(1+\tau_1 s)}{(1+\tau_2 s)}$ is the function generated by the lead-lag compensator on measured ΔT;

τ_1 and τ_2 are the time constants utilized in the lead-lag compensator for ΔT, $\tau_1 \geq 8$ sec, $\tau_2 \leq 3$ sec;

$K_4 \leq 1.09$;

$K_5 \geq 0.02$/°F for increasing Tavg and $K_5 \leq 0$ for decreasing T_{avg};

$\frac{(\tau_7 s)}{(1+\tau_7 s)}$ is the function generated by the rate-lag compensator for Tavg;

τ_7 is the time constant utilized in the rate-lag compensator for Tavg, $\tau_7 \geq 10$ sec;

T is measured average Reactor Coolant System temperature, °F;

T" is loop specific indicated Tavg at RATED THERMAL POWER, ≤ 587.1°F;

$K_6 \geq 0.00180$/°F when T > T" and $K_6 \leq 0$/°F when T ≤ T";

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

TABLE 2.2-1 (Continued)

TABLE NOTATIONS (Continued)

NOTE 4: The channel's maximum Trip Setpoint shall not exceed its computed Trip Setpoint by more than 2.7% ΔT span. (Four Loop Operation)

NOTE 5: Setpoint is for increasing power.

NOTE 6: Setpoint is for decreasing power.

Intermediate and Source Range, Neutron Flux

The Intermediate and Source Range, Neutron Flux trips provide core protection during reactor startup to mitigate the consequences of an uncontrolled rod cluster control assembly bank withdrawal from a subcritical condition. These trips provide redundant protection to the Low Setpoint trip of the Power Range, Neutron Flux channels. The Source Range channels will initiate a Reactor trip at about 10^6 counts per second unless manually blocked when P-6 becomes active. The Intermediate Range channels will initiate a Reactor trip at a current level equivalent to approximately 25% of RATED THERMAL POWER unless manually blocked when P-10 becomes active. No credit was taken for operation of the trips associated with either the Intermediate or Source Range Channels in the accident analyses; however, their functional capability at the specified trip settings is required by this specification to enhance the overall reliability of the Reactor Trip System.

Overtemperature ΔT

The Overtemperature ΔT trip provides core protection to prevent DNB for all combinations of pressure, power, coolant temperature, and axial power distribution, provided that the transient is slow with respect to piping transit delays from the core to the temperature detectors, and pressure is within the range between the Pressurizer High and Low Pressure trips. The Setpoint is automatically varied with: (1) coolant temperature to correct for temperature induced changes in density and heat capacity of water and includes dynamic compensation for piping delays from the core to the loop temperature detectors, (2) pressurizer pressure, and (3) axial power distribution. With normal axial power distribution, this Reactor trip limit is always below the core Safety Limit as shown in Figure 2.1-1. If axial peaks are greater than design, as indicated by the difference between top and bottom power range nuclear detectors, the Reactor trip is automatically reduced according to the notations in Table 2.2-1. Although a direction of conservatism is identified for the Overtemperature ΔT reactor trip function K_2 and K_3 gains, the gains should be set as close as possible to the values contained in Note 1 to ensure that the Overtemperature ΔT setpoint is consistent with the assumptions of the safety analyses.

Operation with a reactor coolant loop out of service requires Reactor Trip System modification. Three loop operation is permissible after resetting the K1 input to the Overtemperature ΔT channels, reducing the Power Range Neutron Flux High setpoint to a value just above the three loop maximum permissible power level, and resetting the P-8 setpoint to its three loop value. These modifications have been chosen so that, in three loop operation, each component of the Reactor Trip System performs its normal four loop function, prevents operation outside the safety limit curves, and prevents the DNBR from going below the design limit during normal operational and anticipated transients.

Overpower ΔT

The Overpower ΔT trip provides assurance of fuel integrity (e.g., no fuel pellet melting and less than 1% cladding strain) under all possible overpower conditions, limits the required range for Overtemperature ΔT

Docket No. 50-423
B16514

Attachment 4

Millstone Nuclear Power Station Unit No. 3
Proposed Revision to Technical Specification
Reactor Trip System Setpoints
(PTSCR 3-20-97)
Background and Safety Assessment

June 1997

Background

Notes 1 and 3 to Technical Specifications Table 2.2-1 define the values for the constants used in the Overtemperature Delta T (OTΔT) and Overpower Delta T (OPΔT) Reactor Trip System Instrumentation setpoint calculators. Many of the constants are defined in a manner implying that the terms must be set exactly to defined values. It is not possible to achieve compliance because some tolerance must be allowed for calibration accuracy. Millstone Unit No. 3 Instrument and Control surveillances allow a tolerance around the Technical Specification values for individual terms K_1, K_2, K_3, K_4, K_5, K_6, T', T", P' and $f_1(\Delta I)$. These tolerances are equivalent to the equipment accuracy specifications and are included in the Channel Statistical Allowance provided by WCAP 10991, Rev. 4. Although nominal treatment is allowed for individual constants, plant surveillance procedures require the as left channel setpoints to trip at less than or equal to the setpoint defined by the OTΔT and OPΔT algorithms provided in Table 2.2-1.

Safety Assessment

This Proposed Technical Specification Revision defines the numeric constants using either "≤" or "≥". The polarity of the operators indicate the direction of conservatism. In order to comply with this change in notation, minor changes are required to the procedures that calibrate the OTΔT and OPΔT functions. The acceptance criteria for components implementing the constants will be selected such that one limit of error will be equivalent to the value specified in the proposed Technical Specification change and the other limit will be in the direction of conservatism identified by the change. The direction of conservatism for the various terms can be determined by considering the purpose of the OTΔT and OPΔT trip functions, and by reviewing the algorithms. The OTΔT trip protects the core from damage due to departure from nucleate boiling (DNB). DNB is associated with unbalanced power distributions, high temperatures and/or low pressures. OPΔT ensures that the limit for allowable heat generation (kw/ft) is not exceeded. The OPΔT setpoint is reduced when Tavg increases above nominal to account for temperature induced changes in density and heat capacity of water. The trip setpoints are continuously calculated based on fixed constants and process inputs for real time measurements of temperature, pressure and core power distribution.

Additional changes have been made to the notes to reflect hardware modifications that were made during construction of Millstone Unit No. 3. These modifications eliminated hardware that was not required because the function constants were defined as zero in the existing notes to Table 2-2.1. The hardware change eliminated the filters on ΔT, $\frac{1}{(1+\tau_3 s)}$, Tavg, $\frac{1}{(1+\tau_6 s)}$, and $f_2(\Delta I)$.

The proposed change will move the ΔT_0 term from the right side of the OTΔT and OPΔT algorithms to the left side. This accurately reflects plant design, where ΔT power is represented as the fraction of Rated Thermal Power (RTP) in the Process Protection System, $\Delta T/\Delta T_0$. This is simply a change in notation and the algorithm is mathematically (although not functionally) equivalent to the original notation. This aspect of the change does not impact the margin of safety.

The remaining definitions have been updated, changing "=" to "is." This is an administrative change and does not impact safety.

A change to the bases is included per the recommendation of Westinghouse. The change adds a statement recommending that K2 and K3 be set as close as possible to the values provided in Note 1 to be consistent with the assumptions of the safety analyses.

The proposed change is safe and does not create an unreviewed safety question. This evaluation demonstrates that this change does not increase the probability or consequences of a malfunction of the OTΔT and OPΔT channels. This assessment concludes that the margin of safety for transients identified in the FSAR is not reduced when the constants are adjusted in the directions identified by the proposed change.

Docket No. 50-423
B16514

Attachment 5

Millstone Nuclear Power Station Unit No. 3
Proposed Revision to Technical Specification
Reactor Trip System Setpoints
(PTSCR 3-20-97)
Significant Hazards Consideration and Environmental Considerations

June 1997

<u>Significant Hazards Consideration</u>

NNECO has reviewed the proposed revision in accordance with 10CFR50.92 and has concluded that the revision does not involve a significant hazards consideration (SHC). The basis for this conclusion is that the three criteria of 10CFR50.92(c) are not satisfied. The proposed revision does not involve an SHC because the revision would not:

1. Involve a significant increase in the probability or consequence of an accident previously evaluated.

   The proposed changes to Technical Specification Table 2.2-1 Notes 1 and 3 for the addition of the inequalities ensure that the constants used for OTΔT and OPΔT will be set conservatively with respect to the assumptions in the accident analysis. The effect on the turbine runback function has been evaluated with respect to the Loss Of External Electrical Load And/Or Turbine Trip analysis and it has been determined that this change does not increase the probability of this transient. The change was also reviewed to determine if it produced an increase in the probability of an unnecessary or spurious reactor trip and it was determined that it did not. This change does not increase the probability of any previously evaluated accident.

   The consequences of previously evaluated accidents, including Uncontrolled Rod Cluster Assembly Bank Withdrawal At Power, Rod Cluster Control Assembly Misalignment, Uncontrolled Boron Dilution, Loss Of External Electrical Load And/Or Turbine Trip, Excessive Heat Removal Due To Feedwater System Malfunctions, Excessive Load Increase Incident, Accidental Depressurization Of The Reactor Coolant System, Accidental Depressurization Of The Main Steam System, Loss Of Reactor Coolant From Small Ruptured Pipes Or From Cracks In Large Pipes Which Actuate ECCS, or Major Secondary System Pipe Ruptures have not changed.

   The administrative changes have no impact on the design or operation of Millstone Unit 3.

   Therefore, the proposed revision does not involve a significant increase in the probability or consequence of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

   The proposed changes to Technical Specification Table 2.2-1 Notes 1 and 3 do not alter the design, construction, operation, maintenance or method of testing of equipment. The proposed changes alter the Technical Specification description of a OTΔT and OPΔT setpoint functions and requires only slight changes to the actual setpoints in the field. The OTΔT and OPΔT functions serve to mitigate the effects of accidents by opening the Reactor Trip breakers or reduce power by "running back" turbine electrical load. The change does not create any new interfaces to plant control or protection systems and therefore, no new mechanism for accident initiation has been introduced. The proposed change does not introduce the possibility of an accident of a different type than previously evaluated.

Therefore, the proposed revision does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The proposed changes to Technical Specification Table 2.2-1 Notes 1 and 3 do not affect the integrity of any physical fission protective boundaries, increase the delays in actuation of safety systems beyond that assumed in the safety analysis or reduce the margin of safety of any system. These changes ensure that actuation of Overtemperature ΔT and Overpower ΔT reactor trips will occur conservatively with respect to the assumptions of the accident analysis.

Therefore, the proposed revision does not involve a significant reduction in a margin of safety.

In conclusion, based on the information provided, it is determined that the proposed revision does not involve an SHC.

Environmental Considerations

NNECO has reviewed the proposed license amendment against the criteria of 10CFR51.22 for environmental considerations. The proposed revision does not involve an SHC, does not significantly increase the type and amounts of effluents that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, NNECO concludes that the proposed revision meets the criteria delineated in 10CFR51.22(c)(9) for categorical exclusion from the requirements of an environmental considerations.