ATTACHMENT 1

PROPOSED TECHNICAL SPECIFICATION

Marked-up Technical Specification Pages

2.2 LIMITING SAFETY SYSTEM SETTINGS

within permissible calibration tolerance.

REACTOR TRIP SYSTEM INSTRUMENTATION SETPOINTS

2.2.1 The Reactor Trip System Instrumentation and Interlock Setpoints shall be set consistent with the Trip Setpoint values shown in Table 2.2-1.

APPLICABILITY: As shown for each channel in Table 3.3-1.

ACTION:

a. With a Reactor Trip System Instrumentation or Interlock Setpoint less conservative than the value shown in the Trip Setpoint column but more conservative than the value shown in the Allowable Value column of Table 2.2-1, adjust the setpoint consistent with the Trip setpoint value.

either!

b. With the Reactor Trip System Instrumentation or Interlock Setpoint less conservative than the value shown in the Allowable Values column of Table 2.2-1, declare the channel inoperable and apply the applicable ACTION statement requirement of Specification 3.3.1 until the channel is restored to OPERABLE status with its Setpoint adjusted consistent with the Trip Setpoint value.

Insert A

1.

2.

Insert B

Insert A

Adjust the Setpoint consistent with the Trip Setpoint value of Table 2.2-1 and determine within 12 hours that Equation 2.2-1 was satisfied for the affected channel or

Insert B

EQUATION 2.2-1 $Z + R + S \leq TA$

where:

Z = The value for column Z of Table 2.2-1 for the affected channel,

R = The "as measured" value (in percent span) of rack error for the affected channel,

S = Either the "as measured" value (in percent span) of the sensor error, or the value of Column S (Sensor Error) of Table 2.2-1 for the affected channel, and

TA = The value for Column TA (Total Allowance in percent of span) of Table 2.2-1 for the affected channel.

TABLE 2.2-1

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUE #	Total Allowance (TA)	(Z)	Sensor Drift (S)
1. Manual Reactor Trip	N.A.	N.A.	NA	NA	NA
2. Power Range, Neutron Flux a. High Setpoint	≤109% of RTP**	≤[~~ ~~] 112.0 % of RTP**	7.5	4.56	0.[illegible]
b. Low Setpoint	≤25% of RTP**	≤[~~ ~~] 28.0 % of RTP**	8.3	4.56	0.0
3. Intermediate Range, Neutron Flux	≤25% of RTP**	≤[~~ ~~] 31 % of RTP**	13.5	8.41	0.0
4. Source Range, Neutron Flux	$\leq 10^5$ cps	≤[~~ ~~] 1.4 $\times 10^5$ cps	13.9	10.01	0.0
5. Overtemperature ΔT	See Note 1	See Note 2	7.2	4.82	2.5 #
6. Overpower ΔT	See Note 3	See Note 4	5.3	3.09	2.0
7. Pressurizer Pressure-Low	≥1835 psig	≥[~~ ~~] 1817 psig	4.5	1.12	1.4
8. Pressurizer Pressure-High	≤2385 psig	≤[~~ ~~] 2403 psig	5.5	1.12	1.4
9. Pressurizer Water Level-High	≤92% of instrument span	≤[~~ ~~] 92.2 % of instrument span	8.0	6.76	4.0
10. Reactor Coolant Flow-Low	≥90% of loop design flow*	≥[~~ ~~] 88.7 % of loop design flow*	4.6	2.65	0.8
11. Steam Generator Water Level Low-Low	≥15% of narrow range instrument span	≥[~~ ~~] 13.2 % of narrow range instrument span	5.0	2.33	1.[illegible]

*Loop design flow = 89,500 gpm
**RTP = RATED THERMAL POWER

2.0% Span for Delta-T (RTDs) and 0.5% for Pressurizer Pressure

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUE #	Total Allowence (TA)	(Z)	Sensor Drift (S)
12. Steam/Feedwater Flow Mismatch Coincident With	Feed Flow ≤ 20% ~~≤0.64 x 10^6 lb/hr~~ below steam flow	Feed Flow ≤ 23.9% ~~≥[ ] x 10^6 lb/hr~~ below steam flow	20.0	3.67	7.3##
Steam Generator Water Level-Low	≥15% of narrow range instrument span	≥~~[ ]~~ 13.2% of narrow range instrument span	5.0	2.33	1.9
13. Undervoltage - 4.16 kV Busses A and B	70% bus voltage ~~≥2496 volts each bus~~	69% bus voltage ~~≥[ ] volts each bus~~	20.0	1.12	0.0
14. Underfrequency - Trip of Reactor Coolant Pump Breaker(s) Open	≥ 56.1 Hz	≥ ~~[ ]~~ 55.9 Hz	16.4	0.50	0.0
15. Turbine Trip			8.6	1.0	0.0
a. Auto Stop Oil Pressure	≥45 psig	≥~~[ ]~~ 43 psig			
b. Turbine Stop Valve Closure	Fully Closed ***	Fully Closed ***	NA	NA	NA
16. Safety Injection Input from ESF	NA	NA	NA	NA	NA
17. Reactor Trip System Interlocks					
a. Intermediate Range Neutron Flux, P-6	Nominal 1 x 10^{-10} amp	6.0×10^{-11} amps ~~≥[ ] amp~~	NA	NA	NA

***Limit switch is set when Turbine Stop Valves are fully closed.

1.7% Span for Steam Line Flow, 2.9% Span for Feedwater Flow and 2.8% Span for Steam Line Pressure

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUE #	Total Allowance (TA)	(Z)	Sensor Drift (S)
b. Low Power Reactor Trips Block, P-7					
1) P-10 input	Nominal 10% of RTP**	≤ 13.0 % of RTP**	NA	NA	NA
2) Turbine First Stage Pressure	Nominal 10% Turbine Power	≤ 13.0 % Turbine Power	NA	NA	NA
c. Power Range Neutron Flux, P-8	Nominal 45% of RTP**	≤ 48.0 % of RTP**	NA	NA	NA
d. Power Range Neutron Flux, P-10	Nominal 10% of RTP**	≥ 7.0 % of RTP**	NA	NA	NA
18. Reactor Coolant Pump Breaker Position Trip	N.A.	N.A.	NA	NA	NA
19. Reactor Trip Breakers	N.A.	N.A.	NA	NA	NA
20. Automatic Trip and Interlock Logic	N.A.	N.A.	NA	NA	NA

**RTP = RATED THERMAL POWER

TABLE 2.2-1 (Continued)

TABLE NOTATIONS

NOTE 1: OVERTEMPERATURE ΔT

$$\left[\frac{(1+\tau_1 S)}{(1+\tau_2 S)}\right]$$

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

Where:

ΔT = Measured ΔT by RTD Instrumentation ~~(includes RTD response time)~~;

$\frac{1+\tau_1 S}{1+\tau_2 S}$ = Lead ~~Lag~~ compensator on measured ΔT;

τ_1, τ_2 = Time constants utilized in the lag compensator for ΔT, ~~τ_1 + RTD response time = 2.5s;~~ $\tau_1 = 8$ secs., $\tau_2 = 3$ secs.;

ΔT_o = Indicated ΔT at RATED THERMAL POWER ~~(includes RTD response time)~~;

$\frac{1}{1+\tau_3 S}$ = The function generated by the rate-lag controller for Tavg dynamic compensation

K_1 = 1.095;

K_2 = 0.0107/°F;

$\frac{1+\tau_4 S}{1+\tau_5 S}$ = 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}, τ_4 = 25secs., τ_5 = 3 secs.;

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 for ΔT, $\tau_6 = 0$ secs.; ~~τ_6 + RTD response time = 2.5s; 0 secs;~~

T' $\leq$ 574.2°F (Nominal T_{avg} at RATED THERMAL POWER);

K_3 = 0.000453/psig;

P = Pressurizer pressure, psig:

τ_3 = Time constant utilized in the lag compensator for ΔT: τ_3 = 0 secs.

TABLE 2.2-1 (Continued)

TABLE NOTATIONS (Continued)

NOTE 1: (Continued)

P' $\geq$ 2235 psig (Nominal RCS operating pressure);

S = Laplace transform operator, ~~s^{-1}~~ sec.$^{-1}$;

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 - 14% and + 10%, $f_1(\Delta I) = 0$, 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 - 14%, the ~~ΔT~~ Delta-T Trip Setpoint shall be automatically reduced by ~~2.0%~~ 1.5% of its value at RATED THERMAL POWER; and

(3) For each percent that the magnitude of $q_t - q_b$ exceeds + 10%, the ~~ΔT~~ Delta-T Trip Setpoint shall be automatically reduced by ~~3.5%~~ 1.5% of its value at RATED THERMAL POWER.

NOTE 2: ~~(This note number is not used.)~~
The channel's maximum trip setpoint shall not exceed its computed trip point by more than 1.5% of instrument span.

TABLE 2.2-1 (Continued)

TABLE NOTATIONS (Continued)

NOTE 3: OVERPOWER ΔT

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

Where:

ΔT	=	As defined in Note 1,
$\frac{1+\tau_1 S}{1+\tau_2 S}$	=	As defined in Note 1;
$\frac{1}{1+\tau_3 S}$	=	As defined in Note 1,
τ_1	=	As defined in Note 1,
ΔT_0	=	As defined in Note 1,
K_4	$\leq$	1.09,
K_5	$\geq$	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}, $\tau_7 \geq 10$ secs.;
$\frac{1}{1+\tau_6 S}$	=	As defined in Note 1,
τ_6	=	As defined in Note 1,

TABLE 2.2-1 (Continued)

TABLE NOTATIONS (Continued)

NOTE 3: (Continued)

K_6 = 0.00068/°F for T > T" and K_6 = 0 for T $\leq$ T";

T = As defined in Note 1,

T" = Indicated T_{avg} at RATED THERMAL POWER (Calibration temperature for ΔT instrumentation, $\leq$ 574.2°F),

S = As defined in Note 1, and

$f_2(\Delta I)$ = ~~As defined in Note 1.~~ 0 for all ΔI

NOTE 4: ~~(This note number is not used.)~~ The channel's maximum trip setpoint shall not exceed its computed trip point by more than 1.4% ΔT span.

If no allowable value is specified as indicated by [ ], the trip set point shall also be the allowable value.

is based upon combining all of the uncertainties in these channels.

2.2 LIMITING SAFETY SYSTEM SETTINGS

BASES

2.2.1 REACTOR TRIP SYSTEM INSTRUMENTATION SETPOINTS

reactor

The Reactor Trip Setpoint Limits specified in Table 2.2-1 are the nominal values at which the Reactor trips are set for each functional unit. The Trip Setpoints have been selected to ensure that the core and Reactor Coolant System are prevented from exceeding their safety limits during normal operation and design basis anticipated operational occurrences and to assist the Engineered Safety Features Actuation System ~~in~~ mitigating the consequences of accidents.

Insert 1

setpoints

To accommodate the instrument drift that may occur between operational tests and the accuracy to which setpoints can be measured and calibrated, Allowable Values for the Reactor Trip Setpoints have been specified ~~in~~ the Table 2.2-1. Operation with ~~a trip set~~ less conservative than ~~its~~ Trip Setpoint but within its specified Allowable Value is acceptable. ~~If no value is listed in the Allowable column, the setpoint value is the limiting setting~~.

Insert 2

The methodology to derive the Trip Setpoints ~~includes an allowance for instrument uncertainties~~. Inherent to the determination of the Trip Setpoints are the magnitudes of these channel uncertainties. Sensors and other instrumentation utilized in these channels are expected to be capable of operating within the allowances of these uncertainty magnitudes.

Insert 3

The various Reactor trip circuits automatically open the Reactor trip breakers whenever a condition monitored by the Reactor Trip System reaches a preset or calculated level. In addition to redundant channels and trains, the design approach provides a Reactor Trip System which monitors numerous system variables, therefore providing Trip System functional diversity. The functional capability at the specified trip setting is required for those anticipatory or diverse Reactor trips for which no direct credit was assumed in the safety analysis to enhance the overall reliability of the Reactor Trip System. The Reactor Trip System initiates a Turbine trip signal whenever Reactor trip is initiated. This prevents the reactivity insertion that would otherwise result from excessive Reactor Coolant System cooldown and thus avoids unnecessary actuation of the Engineered Safety Features Actuation System.

Manual Reactor Trip

The Reactor Trip System includes manual Reactor trip capability.

Insert 1

The setpoint for a reactor trip system or interlock function is considered to be adjusted consistent with the nominal value when the "as measured" setpoint in within the band allowed for calibration accuracy.

Insert 2

since an allowance has been made in the safety analysis to accommodate this error. An optional provision has been included for determining the OPERABILITY of a channel when its trip setpoint is found to exceed the Allowable Value. The methodology of this option utilizes the "as measured" ("as found") deviation from the specified calibration point for rack and sensor components, in conjunction with a statistical combination of the other uncertainties of the instrumentation to measure the process variable, and the uncertainties in calibrating the instrumentation. In Equation 2.2-1, $Z + R + S \leq TA$, the interactive effects of the errors in the rack and the sensor, and the "as measured" ("as found" - nominal) values of the errors are considered. Z, as specified in Table 2.2-1, in percent span, is the statistical summation of errors assumed in the analysis excluding those associated with the sensor and rack drift and the accuracy of their measurement. TA or Total Allowance is the difference, in percent span, between the trip setpoint and the value used in the analysis for reactor trip. R or Rack Error is the "as measured" ("as found" - nominal) deviation, in percent span, for the affected channel from the specified trip setpoint. S or Sensor Drift is either the "as measured" ("as found" - nominal) deviation of the sensor from its calibration point or the value specified in Table 2.2-1, in percent span, from the analysis assumptions. Use of Equation 2.2-1 allows for a sensor drift factor, an increased rack drift factor, and provides a threshold value for determining reportability.

Insert 3

Rack drift in excess of the Allowable Value exhibits the behavior that the rack has not met its allowance. Being that there is a small statistical chance that this will happen, an infrequent excessive drift is expected. Rack or sensor drift, in excess of the allowance that is more than occasional, may be indicative of more serious problems and should warrant further investigation.

INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-2 shall be OPERABLE with their Trip Setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-3.

APPLICABILITY: As shown in Table 3.3-2.

ACTION:

a. With an ESFAS Instrumentation or Interlock Trip Setpoint trip less conservative than the value shown in the Trip Setpoint column but more conservative than the value shown in the Allowable Value column of Table 3.3-3, adjust the Setpoint consistent with the Trip Setpoint value, within permissible calibration tolerances.

either!

b. With an ESFAS Instrumentation or Interlock Trip Setpoint less conservative than the value shown in the Allowable Value column of Table 3.3-3, ~~declare the channel inoperable and apply the applicable ACTION statement requirements of Table 3.3-2 until the channel is restored to OPERABLE status with its Setpoint adjusted consistent with the Trip Setpoint value.~~

Insert C

c. With an ESFAS instrumentation channel or interlock inoperable, take the ACTION shown in Table 3.3-2.

SURVEILLANCE REQUIREMENTS

4.3.2.1 Each ESFAS instrumentation channel and interlock and the automatic actuation logic and relays shall be demonstrated OPERABLE by performance of the ESFAS Instrumentation Surveillance Requirements specified in Table 4.3-2.

Insert C

1. Adjust the Setpoint consistent with the Trip Setpoint value of Table 3.3-3 and determine within 12 hours that Equation 2.2-1 was satisfied for the affected channel, or

2. Declare the channel inoperable and apply the applicable ACTION statement requirements of Table 3.3-2 until the channel is restored to OPERABLE status with its setpoint adjusted consistent with the Trip Setpoint value.

EQUATION 2.2-1 $Z + R + S \leq TA$

where:

Z = The value for column Z of Table 3.3-3 for the affected channel,

R = The "as measured" value (in percent span) of rack error for the affected channel,

S = Either the "as measured" value (in percent span) of the sensor error, or the value of Column S (Sensor Error) of Table 3.3-3 for the affected channel, and

TA = The value for Column TA (Total Allowance in percent of span) of Table 3.3-3 for the affected channel.

TABLE 3.3-3

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

Total Allowance (TA)	(Z)	Sensor Drift (S)	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
			1. Safety Injection (Reactor Trip, Turbine Trip, Feedwater Isolation, Control Room Ventilation Isolation, Start Diesel Generators, Containment Phase A Isolation (except Manual SI), Containment Cooling Fans, Containment Filter Fans, Start Sequencer, Component Cooling Water, Start Auxiliary Feedwater and Intake Cooling Water)		
NA	NA	NA	a. Manual Initiation	N.A.	N.A.
NA	NA	NA	b. Automatic Actuation Logic	N.A.	N.A.
2.0	0.2	0.0	c. Containment Pressure--High	≤~~6~~ 4.0 psig	≤[5.5] psig
13.0	8.4	1.4	d. Pressurizer Pressure--Low	≥~~1715~~ 1730 psig	≥[1712] psig
4[illegible]	[illegible].57	4.60*	e. High Differential Pressure Between the Steam Line Header and any Steam Line.	≤~~150~~ 100 psi	≤[114] psi
16.7	2.86	3.9	f. Steam Line Flow--High	≤A function defined as follows: A Δp corresponding to ~~0.64 x 10^6 lbs/hr~~ 40% Steam Flow at 0% load increasing linearly ~~to a Δp~~ from 20% load to a value corresponding to ~~3.84 x 10^6 lbs/hr at full load.~~ 120% Steam Flow at full load.	≤A function defined as follows: A Δp corresponding to 42.6% Steam Flow at 0% load increasing linearly from 20% load to a value corresponding to 122.6% Steam Flow at full load
13.0	1.16	2.3	Coincident with: Steam Generator Pressure--Low	≥~~600~~ 614 psig	≥[588] psig
4.0	2.00	1.00	or T_{avg}--Low	≥~~521~~ 543°F	≥[542.5]°F
			2. Containment Spray		
NA	NA	NA	a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
10.0	1.6	0.0	b. Containment Pressure--High-High Coincident with:	≤~~30.0~~ 20 psig	≤[21.4] psig
2[illegible]	[illegible].2	0.0	Containment Pressure--High	≤~~6.0~~ 4.0 psig	≤[5.5] psig

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

Total Allowance (TA)	(Z)	Sensor Drift (S)	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
			3. Containment Isolation		
			a. Phase "A" Isolation		
NA	NA	NA	1) Manual Initiation	N.A.	N.A.
NA	NA	NA	2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
			3) Safety Injection	See Item 1 above for all Safety Injection Trip Setpoints and Allowable Values.	
			b. Phase "B" Isolation		
NA	NA	NA	1) Manual Initiation	N.A.	N.A.
NA	NA	NA	2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
1[illegible]	1.6	0.0	3) Containment Pressure--High-High	≤~~20.0~~ 20 psig	≤[ ] 21.4 psig
2.0	0.2	0.0	Coincident with: Containment Pressure--High	≤~~5.0~~ 4.0 psig	≤[ ] 5.5 psig
			c. Containment Ventilation Isolation		
NA	NA	NA	1) Containment Isolation Manual Phase A or Manual Phase B	N.A.	N.A.
NA	NA	NA	2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
			3) Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.	
NA	NA	NA	4) Containment Radioactivity--High (1)	Particulate (R-11) ≤6.1 x 10^5 CPM Gaseous (R-12) See (2)	Particulate (R-11) ≤ 6.8 x 10^5 CPM Gaseous (R-12) See (2)

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

Total Allowance (TA)	(Z)	Sensor Drift (S)	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUE
			4. Steam Line Isolation		
NA	NA	NA	a. Manual Initiation	N.A.	N.A.
NA	NA	NA	b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
10.0	1.6	0.0	c. Containment Pressure--High-High Coincident with:	≤~~30.0~~ 20.0 psig	≤[ ] 21.4 psig
2.0	0.2	0.0	Containment Pressure--High	≤~~6.0~~ 4.0 psig	≤[ ] 5.5 psig
16.7	2.86	3.9	f. Steam Line Flow--High	≤A function defined as follows: ~~A Δp~~ A delta-p corresponding to ~~0.64 x 10^6 lbs/hr~~ 40% Steam Flow at 0% load increasing linearly ~~to a Δp~~ from 20% load to a value corresponding to ~~3.84 x 10^6 lbs/hr~~ 120% Steam Flow at full load.	≤A function defined as follows: A delta-p corresponding to 42.6% Steam Flow at 0% load increasing linearly from 20% load to a value corresponding to 122% Steam Flow at full load.
[illegible]	1.16	2.3	Coincident with: Steam Line Pressure--Low	≥~~600~~ 614 psig	≥[ ] 588 psig
4.0	2.00	1.00	or T_{avg}--Low	≥~~531~~ 543°F	≥[ ] 542.5°F
			5. Feedwater Isolation		
NA	NA	NA	a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
			b. Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.	
			6. Auxiliary Feedwater (3)		
NA	NA	NA	a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
5.0	2.33	1.9	b. Steam Generator Water Level--Low-Low	≥15% of narrow range instrument span.	≥[ ] 13.2% of narrow range instrument span.
			c. Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.	

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

Total Allowance (TA)	Z	Sensor Drift (S)	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUE
			6. Auxiliary Feedwater (Continued)		
			d. Bus Stripping	See Item 7. below for all Bus Stripping Setpoints and Allowable Values.	
NA	NA	NA	e. Trip of All Main Feedwater Pump Breakers.	N.A.	N.A.
			7. Loss of Power		
NA	NA	NA	a. 4.16 kV Busses A and B (Loss of Voltage)	N.A.	N.A.
			b. 480V Load Centers (Instantaneous Relays) Degraded Voltage		
			Load Center		
			3A	436V±5V (10 sec ± 1 sec delay)	[ ]
			3B	416V±5V (10 sec ± 1 sec delay)	[ ]
			3C	417V±5V (10 sec ± 1 sec delay)	[ ]
			3D	428V±5V (10 sec ± 1 sec delay)	[ ]
			4A	415V±5V (10 sec ± 1 sec delay)	[ ]
			4B	414V±5V (10 sec ± 1 sec delay)	[ ]
			4C	401V±5V (10 sec ± 1 sec delay)	[ ]
			4D	403V±5V (10 sec ± 1 sec delay)	[ ]
			Coincident with: Safety Injection ~~and~~	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.	
			Diesel Generator Breaker Open	N.A.	N.A.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

Allowance (TA)	(Z)	Sensor Drift (S)	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUE
			7. Loss of Power (Continued)		
			c. 480V Load Centers (Inverse Time Relays) Degraded Voltage		
			Load Center		
			3A	419V±5V(60 sec ±30 sec delay)	[ ]
			3B	426V±5V(60 sec ±30 sec delay)	[ ]
			3C	427V±5V(60 sec ±30 sec delay)	[ ]
			3D	436V±5V(60 sec ±30 sec delay)	[ ]
			4A	427V±5V(60 sec ±30 sec delay)	[ ]
			4B	424V±5V(60 sec ±30 sec delay)	[ ]
			4C	413V±5V(60 sec ±30 sec delay)	[ ]
			4D	412V±5V(60 sec ±30 sec delay)	[ ]
			Coincident with: Diesel Generator Breaker Open	N.A.	N.A.
			8. Engineering Safety Features Actuation System Interlocks		
NA	NA	NA	a. ~~X~~ P-11 Pressurizer Pressure	Nominal 2000 psig	≤ ~~[ ]~~ 2018 psig
NA	NA	NA	b. P-12 T_{avg}-Low	Nominal ~~≥543°F~~ 543°F	≥ 542.5°F
			9. Control Room Ventilation Isolation		
NA	NA	NA	a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
			b. Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.	

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

To Allowance (TA)	(Z)	Sensor Drift (S)	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUE#
			9. Control Room Isolation (Continued)		
NA	NA	NA	c. Containment Radioactivity--High (1)	Particulate (R-11) $\leq 6.1 \times 10^5$ CPM Gaseous (R-12) See (2)	Particulate (R-11) $\leq 6.8 \times 10^5$ CPM Gaseous (R-12) See (2)
NA	NA	NA	d. Containment Isolation Manual Phase A or Manual Phase B	~~N.A.~~ qq bb	~~N.A.~~ qq bb
NA	NA	NA	e. Air Intake Radiation Level	$\leq$ 2 mR/hr	2.83 mR/hr

TABLE NOTATIONS

(1) Either the particulate or gaseous channel in the OPERABLE status will satisfy this LCO.

(2) Containment Gaseous Monitor Setpoint = $\frac{(3.2 \times 10^4)}{(F)}$ CPM,

Where F = $\frac{\text{Actual Purge Flow}}{\text{Design Purge Flow (35,000 CFM)}}$

Setpoint may vary according to current plant conditions provided that the release rate does not exceed allowable limits provided in Specification 3.11.2.1.

(3) Auxiliary feedwater manual initiation is included in Specification 3.7.1.2.

#If no allowable value is specified so indicated by [ ], the trip setpoint shall also be the allowable value.

Containment Gaseous Monitor Allowable Value = $\frac{(3.5 \times 10^4)}{(F)}$ CPM,

3/4.3.1 and 3/4.3.2 REACTOR TRIP SYSTEM and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

The OPERABILITY of the Reactor Trip System and the Engineered Safety Features Actuation System instrumentation and interlocks ensures that: (1) the associated ACTION and/or Reactor trip will be initiated when the parameter monitored by each channel or combination thereof reaches its Setpoint (2) the specified coincidence logic is maintained, (3) sufficient redundance is maintained to permit a channel to be out-of-service for testing or maintenance (due to plant specific design, pulling fuses and using jumpers may be used to place channels in trip), and (4) sufficient system functional capability is available from diverse parameters.

The OPERABILITY of these systems is required to provide the overall reliability, redundancy, and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the safety analyses. The Surveillance Requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability.

Under some pressure and temperature conditions, certain surveillances for Safety Injection cannot be performed because of the system design. Allowance to change modes is provided under these conditions as long as the surveillances are completed within specified time requirements. e

The Engineered Safety Features Actuation System Instrumentation Trip Setpoints specified in Table 3.3-3 are the nominal values at which the trips are set for each functional unit. *The setpoint is considered to be adjusted consistent with the nominal value when the "as measured" setpoint is within the band allowed for calibration accuracy.*

To accommodate the instrument drift that may occur between operational tests and the accuracy to which Setpoints can be measured and calibrated, Allowable Values for the Setpoints have been specified in Table 3.3-3. Operation with Setpoints less conservative than the Trip Setpoint but within the Allowable Value is acceptable. If no value is listed in the Allowable column, the Setpoint value is the limiting setting. *Insert 1*

Insert 3

The methodology to derive the Trip Setpoints includes an allowance for instrument uncertainties. Inherent to the determination of the Trip Setpoints are the magnitudes of these channel uncertainties. Sensor and rack instrumentation utilized in these channels are expected to be capable of operating within the allowances of these uncertainty magnitudes. *Insert 2*

The Engineered Safety Features Actuation System senses selected plant parameters and determines whether or not predetermined limits are being exceeded. If they are, the signals are combined into logic matrices sensitive to combinations indicative of various accidents events, and transients. Once the required logic combination is completed, the system sends actuation signals to

Insert 1

..., since an allowance has been made in the safety analysis to accommodate this error. An optional provision has been included for determining the OPERABILITY of a channel when its trip setpoint is found to exceed the Allowable Value. The methodology of this option utilizes the "as measured" ("as found" deviation from the specified calibration point for rack and sensor components in conjunction with a statistical combination of the other uncertainties of the instrumentation to measure the process variable and the uncertainties in calibrating the instrumentation. In Equation 2.2-1, $Z + R + S \leq TA$, the interactive effects of the errors in the rack and the sensor, and the "as measured" values of the errors are considered. Z, as specified in Table 3.3-3, in percent span, is the statistical summation of errors assumed

in the analysis excluding those associated with the sensor and rack drift and the accuracy of their measurement. TA or Total Allowance is the difference, in percent span, between the trip setpoint and the value used in the analysis for actuation. R or Rack Error is the "as measured" ("as found" - nominal) deviation, in percent span, for the affected channel from the specified trip setpoint. S or Sensor Drift is either the "as measured" ("as found" - nominal) deviation of the sensor from its calibration point or the value specified in Table 3.3-3, in percent span, from the analysis assumptions. Use of Equation 2.2-1 allows for a sensor drift factor, an increased rack drift factor, and provides a threshold value for determining ~~reportability.~~ operability.

Insert 2

. Rack drift in excess of the Allowable Value exhibits the behavior that the rack has not met its allowance. Being that there is a small statistical chance that this will happen, an infrequent excessive drift is expected. Rack or sensor drift, in excess of the allowance that is more than occasional, may be indicative of more serious problems and should warrant further investigation.

Insert 3

TA, S, Z and allowable values are based on plant equipment at the time of submittal. Where the evaluated uncertainties of replacement instrumentation ~~is~~ are determined to contribute smaller channel errors, such equipment replacement need not require a change to the Technical Specifications.

ATTACHMENT 3

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATIONS FOR IMPLEMENTATION OF SETPOINT STUDY TURKEY POINT UNITS 3 & 4

INTRODUCTION

Pursuant to the requirements in 10 CFR 50.92, each application for amendment to an operating licensee must be reviewed to determine if the modification involves a significant hazard. The amendment as defined in this report has been reviewed and deemed not to involve a significant hazard based on the following evaluation.

This amendment describes the following subjects:

1. Revision of Section 2.2, Limiting Safety System Settings for implementation of the Westinghouse setpoint five column methodology.

2. Revision of Section 3/4.3.2, Engineered Safety Features Actuation System Instrumentation for implementation of the Westinghouse setpoint five column methodology.

BACKGROUND

Originally the Limiting Safety System Settings and Engineered Safety Features Actuation System Instrumentation setpoints were established by WCAP-7392, "Setpoint Study for Florida Power and Light Company Turkey Point Units 3 and 4", in June of 1970. Since that time, Westinghouse has implemented a statistical methodology to calculate a channel statistical allowance for establishing and justifying reactor trip setpoints. This methodology was used in WCAP-12745,"Westinghouse Setpoint Methodology For Protection Systems Turkey Point Units 3 and 4 Florida Power and Light Company" which is the basis for the revised setpoints.

EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATIONS
FOR IMPLEMENTATION OF SETPOINT STUDY
TURKEY POINT UNITS 3 & 4

The methodology used is the "square root of the sum of the squares" which has been utilized in other Westinghouse reports. This technique, or others of a similar nature, have been used in WCAP-10395, Statistical Evaluation of LOCA Heat Source Uncertainty, and WCAP-8567, Improved Thermal Design Procedure. WCAP-8567 is approved by the NRC noting acceptability of statistical techniques for the application requested. Also, various ANSI, American Nuclear Society (ANS), and Instrument Society of America standards approve the use of probabilistic and statistical techniques in determining safety-related setpoints specifically, ANSI/ANS Standard 58.4-1979, Criteria for Technical Specifications for Nuclear Power Stations, and ISA Standard S67.04, 1987, setpoints for Nuclear Safety-Related Instrumentation Used in Nuclear Power Plants. The methodology used in WCAP-12745, "Westinghouse Setpoint Methodology For Protection Systems-Turkey Point Units 3 and 4, Florida Power and Light Company is essentially the same as that used for V. C. Summer in August, 1982, WCAP-11814, "Westinghouse Setpoint Methodology for Protection Systems"; approved in NUREG-0717, Supplement No. 4, Safety Evaluation Report related to the Operation of Virgil C. Summer Nuclear Station, Unit No. 1, Docket No. 50-395, August, 1982.

In summary the Westinghouse five column methodology will be defined within the Technical Specifications and the appropriate values incorporated within the instrumentation trip setpoint tables for the Reactor Protection System and the Engineered Safety Features Actuation System. Several of the trip setpoint values have been revised to take advantage of additional margin identified during the implementation of the methodology. Additional changes are incorporated which are intended to improve the human interface by providing trip setpoints which are even values, thus easing operator memorization.

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

The standards used to arrive at a determination that a request for amendment involves no significant hazards consideration are included in the Commission's regulations, 10 CFR 50.92, which states that no significant hazards considerations are involved if the operations of the facility 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. Each standard is discussed as follows:

EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATIONS
FOR IMPLEMENTATION OF SETPOINT STUDY
TURKEY POINT UNITS 3 & 4

(1) Operation of the facility ln accordance with the proposed amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The changes proposed as a result of the Setpoint Methodology are consistent with the current plant safety analyses of record. The setpoints assumed in the various safety analyses, the installed protection system hardware, and plant calibration procedures are reflected in these calculations. As such, the changes to the technical specifications do not affect assumptions contained in the plant safety analyses, physical design and/or operation of the plant. All conclusions in the safety analysis remain valid. Therefore, the proposed changes do not increase the probability or consequences of accidents previously analyzed.

(2) Operation of the facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.

The Technical Specifications proposed as a result of the Setpoint Methodology calculations do not create any new or different failures modes, for equipment important to safety, than those previously evaluated in the FSAR. Thus, the plant is still within analyzed conditions for design basis events (LOCA and Non-LOCAs), including consideration of the single failure of equipment important to safety. Therefore, the proposed technical specifications do not create the possibility of a new or different kind of accident.

(3) Use of the modified specification would not involve a significant reduction in the margin of safety.

The change to the five column methodology proposed explicitly defines the safety margins to be maintained by the Technical Specifications. This change quantifies the setpoint margins which were previously undefined. In summary, it is demonstrated that each channel has additional margin after the channel uncertainties are accounted for which will preserve the safety analysis limits. The amount of margin for each channel is defined in Table 3-23, of WCAP-12745.

EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATIONS
FOR IMPLEMENTATION OF SETPOINT STUDY
TURKEY POINT UNITS 3 & 4

In the Technical Specification submittal, there are two cases where the total allowance between the Safety Analysis Limit and the Nominal Trip Setpoint has been reduced from the existing Technical Specifications. These are the Steam Flow/Feed Flow Mismatch and the Steam Flow High functions. With respect to both functions the reduction in total allowance still provides more than adequate margin to preserve the Safety Analysis Limits while helping to prevent spurious actuations.

Additionally, with respect to Steam Flow/Feed Flow Mismatch the Safety Analysis Limit is not specifically used in the analysis but is utilized to meet diversity requirements. With respect to Steam Flow High, it should be noted that the previous setpoint resulted in a risk of spurious actuations. The new setpoint is more in conformance with the values traditionally utilized in other Westinghouse plants while maintaining appropriate margins.

The plant design bases will still be maintained and will not reduce the ability to perform post-accident safety functions. Therefore, the margin of safety will not be reduced as described in the technical specifications

SUMMARY

In summary, it has been determined that the amendment request does not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the probability of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety; and therefore does not involve a significant hazards consideration.

The setpoints and associated margins are defined and contained in WCAP-12745, Westinghouse Setpoint Methodology For Protection Systems Turkey Point Units 3 & 4 Florida Power & Light Company (Proprietary) and WCAP-12746 (Non-proprietary).

REFERENCE

1.) WCAP-12745, Westinghouse Setpoint Methodology For Protection Systems, Turkey Point Units 3 & 4, Florida Power & Light Company (Proprietary).

ATTACHMENT 2

DESCRIPTION OF ADMENDMENT REQUEST

Introduction and Background

This request revises Technical Specifications Section 2.2, Limiting Safety System Settings and Section 3/4.3.2, Engineered Safety Features Actuation System Instrumentation for implementation of the Westinghouse setpoint five column methodology.

Originally the Limiting Safety System Settings and Engineered Safety Features Actuation System Instrumentation setpoints were established by WCAP-7392, "Setpoint Study for Florida Power and Light Company Turkey Point Units 3 and 4," in June of 1970. Since that time, Westinghouse has implemented a statistical methodology to calculate a channel statistical allowance for establishing and justifying reactor trip setpoints. This methodology was used in WCAP-12745, "Westinghouse Setpoint Methodology For Protection Systems Turkey Point Units 3 and 4 Florida Power and Light Company" which is the basis for the revised setpoints. Until approval of this request and implementation of the proposed technical specification setpoints, existing licensed setpoints shall remain binding. Existing setpoints are in compliance with the current licensing and design basis of the plants. Variations in the values obtained from the present and proposed settings are to be expected and arise out of differences in assumptions in the calculations of instrument uncertainties.

The methodology used is the "square root of the sum of the squares" which has been utilized in other Westinghouse reports. This technique, or others of a similar nature, have been used in WCAP-10395, Statistical Evaluation of LOCA Heat Source Uncertainty. and WCAP-8567, Improved Thermal Design Procedure. WCAP-8567 is approved by the NRC noting acceptability of statistical techniques for the application requested. Also, various ANSI, American Nuclear Society (ANS), and Instrument Society of America standards approve the use of probabilistic and statistical techniques in determining safety-related setpoints. Specifically, these include ANSI/ANS Standard 58.4-1979, Criteria for Technical Specifications for Nuclear Power Stations, and ISA Standard S67.04, 1987, Setpoints for Nuclear Safety-Related Instrumentation Used in Nuclear Power Plants. The methodology used in WCAP-12745, "Westinghouse Setpoint Methodology For Protection Systems-Turkey Point Units 3 and 4, Florida Power and Light Company is essentially the same as that used for V. C. Summer in August, 1982, WCAP-11814, "Westinghouse Setpoint Methodology for Protection Systems;" approved in NUREG-0717, Supplement No. 4, Safety Evaluation Report related to the Operation of Virgil C. Summer Nuclear Station, Unit No. 1, Docket No. 50-395, August, 1982. This methodology has

subsequently been used to justify setpoints in numerous Westinghouse plants.

In summary the Westinghouse five column methodology will be defined within the Technical Specifications and the appropriate values incorporated within the instrumentation trip setpoint tables for the Reactor Protection System and the Engineered Safety Features Actuation System. Several of the trip setpoint values have been revised based on additional margin identified during the implementation of the methodology. Additional changes are incorporated which are intended to improve the human interface by providing trip setpoints which are easy for operators to memorize.

The setpoints and associated margins are defined and contained in WCAP-12745, Westinghouse Setpoint Methodology For Protection Systems Turkey Point Units 3 & 4 Florida Power & Light Company (Proprietary) and WCAP-12746 (Non-proprietary).

In the Technical Specification submittal, there are two cases where the total allowance between the Safety Analysis Limit and the Nominal Trip Setpoint has been reduced from the existing Technical Specifications. These are the Steam Flow/Feed Flow Mismatch and the Steam Flow High functions. With respect to both functions the reduction in total allowance still provides more than adequate margin to preserve the Safety Analysis Limits while helping to prevent spurious actuations.

Additionally, with respect to Steam Flow/Feed Flow Mismatch the Safety Analysis Limit is not specifically used in the analysis but is utilized to meet diversity requirements. With respect to Steam Flow High, it should be noted that the previous setpoint resulted in a risk of spurious actuations. The new setpoint is more in conformance with the values traditionally utilized in other Westinghouse plants while maintaining appropriate margins.

The use of the summation technique described in Section 2 of WCAP-12745 allows for a natural extension of the two column approach. This extension recognizes the calibration/verification techniques used in the plants and allows for a more flexible approach in determining operability while maintaining acceptable margins of safety. Also of significant benefit to the plant is the incorporation of some rack drift parameters on a quarterly basis (or more often if necessary).

Recognizing that the plant experiences both rack and sensor drift, a different approach to Technical Specification setpoints may be used. This revised methodology accounts for two additional factors seen in the plant during periodic surveillance, 1) interactive effects for both sensors and rack and, 2) sensor drift effects.

Interactive effects will be covered first. When an instrument technician looks for rack drift, more than that is seen if "as left/as found" data is not used. This interaction has been noted several times and is treated as an arithmetic summation of the rack effects, RD, Rack Measurement and Test Equipment Accuracy (RMTE), Rack Comparator Setting Accuracy (RCSA), and RCA; and the sensor effects, Sensor Drift (SD), Sensor Measurement and Test Equipment Accuracy (SMTE) and Sensor Calibration Accuracy (SCA). To provide a conservative "trigger value," the difference between the STS trip setpoint and the STS allowable value is determined by two methods. The first is simply the values used in the Channel Statistical Allowance (CSA) calculation,

$$T1 = (RCA + RMTE + RCSA + RD)$$

where:

T1 = An arithmetic summation of the rack effects

The second extracts these values from the calculations and compares the remaining values against the total allowance (TA):

$$T2 = TA - ((A + S^2)^{1/2} + EA)$$

where:

T2 = Rack trigger value
$A = (PMA)^2 + (PEA)^2 + (SPE)^2 + (STE)^2 + (RTE)^2$
$S = (SCA + SMTE + SD)$
EA, TA and all other parameters are as defined in WCAP-12745.

The smaller of the trigger values should be used for comparison with the "as measured" (RCA + RMTE + RCSA + RD) value. As long as the "as measured" value is smaller, the channel is within the accuracy allowance. If the "as measured" value exceeds the "trigger value", the actual number should be used in the calculation described in WCAP-12745. This means that all the instrument technician has to do during the periodic surveillance is determine the as found value, and verify that it is less than the appropriate thresholds. The same approach is used for the sensor, i.e., the "as measured" value is used for the sensor, i.e., the "as measured" value is used when required.

If the approach used was a straight arithmetic sum, sensor allowances for drift would also be straight forward, i.e., a three column setpoint methodology. However, the use of the Westinghouse methodology requires a somewhat more sophisticated approach. The methodology is based on the use of Equation 4.3 from WCAP-12745.

$$TA \geq (A)^{1/2} + R + S + EA \qquad \text{(Eq. 4.3)}$$

where:

R = the "as measured rack value" (RCA + RMTE + RCSA + RD)
S = the "as measured sensor value" (SCA + SMTE + SD)
all other parameters are as defined in WCAP-12745.

The equation can be reduced further, for use in the Technical Specifications (TS) to:

$$TA \geq Z + R + S$$

where:

$$Z = (A)^{1/2} + EA$$

Equation 4.3 would be used in two instances, 1) when the "as measured" rack setpoint value exceeds the rack "trigger value" as defined by the STS Allowable Value, and, 2) when determining that the "as measured" sensor value is within acceptable values as utilized in the various Safety Analyses and verified every 18 months. *

The significance of the above discussion is that it is possible for the "as found" to exceed the allowable value and still retain channel operability if equation 4.3 is satisfied. Rack or sensor drift, in excess of the allowance that is more than occasional, may be indicative of more serious problems and should warrant further investigation.

TA, S, Z, and allowable values are based on plant equipment at the time of submittal. Where the evaluated uncertainties of replacement instrumentation are determined to contribute smaller channel errors, such equipment replacement need not require a change to the Technical Specifications.

CONCLUSION

The Westinghouse setpoint methodology, i.e., square root of the sum of the squares, results in a 95% probability with the confidence level defined by the appropriate combination of the various confidence levels of the input values. With the exception of the PMA, EA and RD terms, all uncertainties assumed are at least 2 σ values. Calibration accuracies are the extremes of the ranges and are better than 2 σ values. Rack drift is assumed based on a survey of reported plant Licensee Event Reports (LERs) and is

---

* NRC Generic Letter 89-14, 8/21/89, allows a surveillance interval extension of up to 25 %.

considered conservative. PMA values are determined or calculated on a conservative basis and are believed to be at least 2 σ values. Transmitter ambient, steady state values are based on vendor specification data and are considered 2 σ values. Transmitter EA values are based on vendor specification data and are reported by the vendor with a high confidence. The values noted in this document, with respect to streaming, are bounding, based on available data, and are treated in a conservative manner. Temperature streaming in the hot and cold legs is under Westinghouse review and no further impact on the trip setpoints is anticipated.

Using the above methodology, the plant gains added operational flexibility and yet remains within the allowances accounted for in the various accident analyses. In addition, the methodology allows for sensor drift and an increased measured rack drift. These two gains should significantly reduce the problems associated with channel drift and thus, decrease the number of instances a channel is determined to be inoperable while allowing plant operation in a safe manner.

REFERENCE

1.) WCAP-12745, Westinghouse Setpoint Methodology For Protection Systems, Turkey Point Units 3 & 4, Florida Power & Light Company (Proprietary).

ATTACHMENT 5

WCAP-12746, "Westinghouse Setpoint Methodology For Protection Systems Turkey Point Units 3 and 4 Florida Power and Light Company"