ATTACHMENT 3

PROPOSED LICENSE AMENDMENT FOR
IMPLEMENTATION OF A CHANGED COLUMN FORMAT FOR RPS AND ESFAS
TECHNICAL SPECIFICATION SETPOINTS

PROPOSED TECHNICAL SPECIFICATIONS

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2.2 LIMITING SAFETY SYSTEM SETTINGS

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 within the permissible calibration tolerance.

b. With the Reactor Trip System Instrumentation or Interlock Setpoint less conservative than the value shown in the Allowable Value column of Table 2.2-1, either:

   1. Adjust the Setpoint consistent with the Trip Setpoint value of Table 2.2-1 and determine within 12 hours that the affected channel is OPERABLE;or

   2. 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.

TABLE 2.2-1

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE	TRIP SETPOINT
1. Manual Reactor Trip	N.A	N.A.
2. Power Range, Neutron Flux		
a. High Setpoint	≤112.0% of RTP**	≤109% of RTP**
b. Low Setpoint	≤28.0% of RTP**	≤25% of RTP**
3. Intermediate Range, Neutron Flux	≤31.0% of RTP**	≤25% of RTP**
4. Source Range, Neutron Flux	≤1.4 X 10^5 cps	≤10^5 cps
5. Overtemperature ΔT	See Note 2	See Note 1
6. Overpower ΔT	See Note 4	See Note 3
7. Pressurizer Pressure-Low	≥1817 psig	≥1835 psig
8. Pressurizer Pressure-High	≤2403 psig	≤2385 psig
9. Pressurizer Water Level-High	≤92.2% of instrument span	≤92% of instrument span
10. Reactor Coolant Flow-Low	≥88.7% of loop design flow*	≥90% of loop design flow*
11. Steam Generator Water Level Low-Low	≥13.2% of narrow range instrument span	≥15% of narrow range instrument span

* Loop design flow = 89,500 gpm
** RTP = Rated Thermal Power

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE	TRIP SETPOINT
12. Steam/Feedwater Flow Mismatch Coincident With	Feed Flow ≤23.9% below Steam Flow	Feed Flow ≤20% below Steam Flow
Steam Generator Water Level-Low	≥13.2% of narrow range instrument span	≥15% of narrow range instrument span
13. Undervoltage - 4.16 kV Busses A and B	≥69% bus voltage	≥70% bus voltage
14. Underfrequency - Trip of Reactor Coolant Pump Breaker(s) Open	≥55.9 Hz	≥56.1 Hz
15. Turbine Trip		
a. Auto Stop Oil Pressure	≥42 psig	≥45 psig
b. Turbine Stop Valve Closure	Fully Closed***	Fully Closed***
16. Safety Injection Input from ESF	N. A.	N.A.
17. Reactor Trip System Interlocks		
a. Intermediate Range Neutron Flux, P-6	≥6.0×10^{-11} amps	Nominal 1×10^{-10} amp

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

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

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

** RTP = RATED THERMAL POWER

BASES

2.2.1 REACTOR TRIP SYSTEM INSTRUMENTATION SETPOINTS

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. 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 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, surveillance criteria have been determined and are procedurally controlled. The surveillance criteria insure that instruments which are not operating within the assumptions of the setpoint calculations are identified. Surveillance criteria also indicate if Reactor Trip System Instrumentation cannot be demonstrated, with reasonable assurance, to operate within the values specified in design documentation.

The inability to demonstrate through measurement and/or analytical means that the Reactor Trip function would have occurred within the values specified in the design documentation provides a threshold value for REPORTABLE EVENTS.

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 other instrumentation utilized in these channels are expected to be capable of operating within the allowances of these uncertainty magnitudes.

There is a small statistical probability that a properly functioning device will drift beyond determined surveillance criteria. Infrequent drift outside the surveillance criteria are expected. Excessive rack or sensor drift that is more than occasional, may be indicative of more serious problems and should warrant further investigations. Instrument OPERABILITY is also based on the ability of components to be calibrated within acceptable tolerances over the entire calibrated span during scheduled calibration activities.

2.2 LIMITING SAFETY SYSTEM SETTINGS

BASES

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.

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 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 the permissible calibration tolerance.

b. With an ESFAS Instrumentation or Interlock Setpoint less conservative than the value shown in the Allowable Value column of Table 3.3-3, either:

   1. Adjust the Setpoint consistent with the Trip Setpoint value of Table 3.3-3 and determine within 12 hours that the affected channel is OPERABLE;or

   2. Declare the channel inoperable and apply the applicable ACTION statement requirement of Table 3.3.2 until the channel is restored to OPERABLE status with its setpoint adjusted consistent with the Trip Setpoint value.

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.

TABLE 3.3-3

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE #	TRIP SETPOINT
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)		
a. Manual Initiation	N.A.	N.A.
b. Automatic Actuation Logic	N.A.	N.A.
c. Containment Pressure--High	≤4.5 psig	≤4.0 psig
d. Pressurizer Pressure--Low	≥1712 psig	≥1730 psig
e. High Differential Pressure Between the Steam Line Header and any Steam Line.	≤114 psig	≤100 psi
f. Steam Line Flow--High	≤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.	≤A function defined as follows: A ΔP corresponding to 40% steam flow at 0% load increasing linearly from 20% load to a value corresponding to 120 % steam flow at full load.

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE #	TRIP SETPOINT
Coincident with: Steam Generator Pressure--Low	≥588 psig	≥614 psig
or T_{avg}--Low	≥542.5°F	≥543°F
2. Containment Spray		
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
b. Containment Pressure--High-High Coincident with:	≤22.6 psig	≤20.0 psig
Containment Pressure--High	≤4.5 psig	≤4.0 psig
3. Containment Isolation		
a. Phase "A" Isolation		
1) Manual Initiation	N.A.	N.A.
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
3) Safety Injection	See Item 1 above for all Safety Injection Allowable Values.	See Item 1 above for all Safety Injection Trip Setpoints.
b. Phase "B" Isolation		
1) Manual Initiation	N.A.	N.A.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE #	TRIP SETPOINT
3. Containment Isolation (Continued)		
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
3) Containment Pressure--High-High	≤22.6 psig	≤20.0 psig
Coincident with: Containment Pressure--High	≤4.5 psig	≤4.0 psig
c. Containment Ventilation Isolation		
1) Containment Isolation Manual Phase A or Manual Phase B	N.A.	N.A.
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
3) Safety Injection	See Item 1. above for all Safety Injection Allowable Values.	See Item 1. above for all Safety Injection Trip Setpoints.
4) Containment Radioactivity--High (1)	Particulate (R-11) ≤6.8×10^5 CPM Gaseous (R-12) See Note 2	Particulate (R-11) ≤6.1×10^5 CPM Gaseous (R-12) See Note 2
4. Steam Line Isolation		
a. Manual Initiation	N.A.	N.A.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE #	TRIP SETPOINT
4. Steam Line Isolation (Continued)		
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
c. Containment Pressure--High-High Coincident with:	≤22.6 psig	≤20.0 psig
Containment Pressure--High	≤4.5 psig	≤4.0 psig
d. Steam Line Flow--High	≤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.	≤A function defined follows: A ΔP corresponding to 40% steam flow at 0% load increasing linearly from 20% load to a value corresponding to 120% steam flow at full load.
Coincident with: Steam Line Pressure--Low	≥588 psig	≥614 psig
or T_{avg}--Low	≥542.5°F	≥543°F
5. Feedwater Isolation		
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
b. Safety Injection	See Item 1. above for all Safety Injection Allowable Values.	See Item 1. above for all Safety Injection Trip Setpoints.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE #	TRIP SETPOINT
5. Feedwater Isolation (Continued)		
c. Steam Generator Water Level High-High	≤81.9% of narrow range instrument span	≤80% of narrow range instrument span
6. Auxiliary Feedwater (3)		
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
b. Steam Generator Water Level--Low-Low	≤13% of narrow range instrument span.	≥15% of narrow range instrument span.
c. Safety Injection	See Item 1. above for all Safety Injection Allowable Values.	See Item 1. above for all Safety Injection Trip Setpoints.
d. Bus Stripping	See Item 7. below for all Bus Stripping Allowable Values.	See Item 7. below for all Bus Stripping Trip Setpoints.
e. Trip of All Main Feedwater Pump Breakers	N.A.	N.A.
7. Loss of Power		
a. 4.16 kV Busses A and B (Loss of Voltage)	N.A.	N.A.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE #	TRIP SETPOINT
7. Loss of Power (Continued)		
b. 480V Load Centers Degraded Voltage		
Load Center		
3A	[ ]	430V ±5V (10 sec ±1 sec delay)
3B	[ ]	438V ±5V (10 sec ±1 sec delay)
3C	[ ]	434V ±5V (10 sec ±1 sec delay)
3D	[ ]	434V ±5V (10 sec ±1 sec delay)
4A	[ ]	435V ±5V (10 sec ±1 sec delay)
4B	[ ]	434V ±5V (10 sec ±1 sec delay)
4C	[ ]	434V ±5V (10 sec ±1 sec delay)
4D	[ ]	430V ±5V (10 sec ±1 sec delay)
Coincident with: Safety Injection and	See Item 1. above for all Safety Injection Allowable Values.	See Item 1. above for all Safety Injection Trip Setpoints.
Diesel Generator Breaker Open	N.A.	N.A.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE #	TRIP SETPOINT
7. Loss of Power (Continued)		
c. 480V Load Centers Degraded Voltage		
Load Center		
3A	[ ]	424V ±5V (60 sec ±30 sec delay)
3B	[ ]	427V ±5V (60 sec ±30 sec delay)
3C	[ ]	437V ±5V (60 sec ±30 sec delay)
3D	[ ]	435V ±5V (60 sec ±30 sec delay)
4A	[ ]	430V ±5V (60 sec ±30 sec delay)
4B	[ ]	436V ±5V (60 sec ±30 sec delay)
4C	[ ]	434V ±5V (60 sec ±30 sec delay)
4D	[ ]	434V ±5V (60 sec ±30 sec delay)
Coincident with: Diesel Generator Breaker Open	N.A.	N.A.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE #	TRIP SETPOINT
8. Engineering Safety Features Actuation System Interlocks		
a. Pressurizer Pressure	≤2018 psig	Nominal 2000 psig
b. Tavg--Low	≥542.5°F	Nominal 543°F
9. Control Room Ventilation Isolation		
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
b. Safety Injection	See Item 1. above for all Safety Injection Allowable Values.	See Item 1. above for all Safety Injection Trip Setpoints.
c. Containment Radioactivity--High (1)	Particulate (R-11) ≤6.8×10^5 CPM Gaseous (R-12) See Note 2	Particulate (R-11) ≤6.1×10^5 CPM Gaseous (R-12) See Note 2
d. Containment Isolation Manual Phase A or Manual Phase B	N.A.	N.A.
e. Air Intake Radiation Level	≤2.83 mR/hr	≤2 mR/hr

TABLE 3.3-3 (continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

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,

Containment Gaseous Monitor Allowable Value = $\frac{(3.5 \times 10^4)}{(F)}$ 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, as indicated by [], the trip setpoint shall also be the allowable value.

BASES

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 redundancy 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.

The Engineered Safety Features Actuation System Instrumentation Trip Setpoints specified in Table 3.3-3 are the nominal values at which the bistables 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, surveillance criteria have been determined and are procedurally controlled. The surveillance criteria insure that instruments which are not operating within the assumptions of the setpoint calculations are identified. Surveillance criteria also indicate if Reactor Trip System Instrumentation cannot be demonstrated, with reasonable assurance, to operate within the values specified in design documentation.

The inability to demonstrate through measurement and/or analytical means that the Reactor Trip function would have occurred within the values specified in design documentation provides a threshold value for REPORTABLE EVENTS.

REACTOR TRIP SYSTEM AND ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (Continued)

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.

There is a small statistical probability that a properly functioning device will drift beyond determined surveillance criteria. Infrequent drift outside the surveillance criteria are expected. Excessive rack or sensor drift that is more than occasional, may be indicative of more serious problems and should warrant further investigations. Instrument OPERABILITY is also based on the ability of components to be calibrated within acceptable tolerances over the entire calibrated span during scheduled calibration activities.

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