B. DESCRIPTION OF CHANGE

The steam generator low-low level trip setpoints for Salem Units 1 & 2 are to be lowered to 8.5% with an allowable Technical Specification value of 7.5% as shown on the attached revised Technical Specification:

C. REASON FOR CHANGE

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In early 1980, steam generator low-low level trip setpoints at Salem Units 1 & 2 were raised from 5% to 18% to correct anticipated error introduced into the measurement by reference leg heatup effects and by environmental induced error on the level transmitters during a postulated accident.

The allowable setpoint basis for the Units were as follows:

- Unit 1 0% minimum trip point
 - 3% trip point margin
 - 2% trip channel accuracy
 - 8.6% reference leg heatup error (without insulation)
 - 3.4% transmitter environmental error (Barton Lot No. 2)
 - 17% allowable Technical Specification value
- Unit 2 0% minimum trip point
 - 3% trip point margin
 - 2% trip channel accuracy
 - 2% reference leg heatup error (with insulation)
 - 10% transmitter environmental error (Barton _____ Lot No. 1)
 - 17% allowable Technical Specification value

The transmitters have been replaced with environmentally qualified equipment. This reduces the error factor by 2.9% on Unit 1, which had the Barton Lot No. 2 and by 9.5% on Unit 2, which had the Barton Lot No. 1. The reference leg heatup effect was reduced on Unit 1 from 8.6% to 2% error factor by insulating the reference leg.

The setpoint basis now is as follows:

- Unit 1&2 0% minimum trip point
 - 3% trip point margin
 - 2% trip channel accuracy
 - 2% reference leg heatup error (with insulation)
 - 0.5% transmitter environmental error (Rosemount Model 1153D)
 - 7.5% allowable Technical Specification value

The proposed change allows operating latitude that can significantly reduce the number of reactor trips due to improper steam generator water level while in manual control during startup.

D. SAFETY EVALUATION

All potential sources of measurement error are accounted for in the setpoint selection and existing safety analyses remain valid with no increase in the probability or consequences of an accident or equipment malfunction and no decrease in the margin of safety.

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT

13. Steam Generator Water Level--Low-Low

- 14. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level
- 15. Undervoltage-Reactor Coolant Pumps
- 16. Underfrequency-Reactor Coolant Pumps
- 17. Turbine Trip A. Low Trip System Pressure
 - B. Turbine Stop Valve Closure
- 18. Safety Injection Input from SSPS
- 19. Reactor Coolant Pump Breaker Position Trip

TRIP SETPOINT

>8.5% of narrow range instrument span-each steam generator

< 40% of full steam flow at $\overline{R}ATED$ THERMAL POWER coincident
with steam generator water level
> 25% of narrow range instrument span--each steam generator

> 2900 volts-each bus

 \geq 56.5 Hz - each bus

<u>> 45 psig</u>

< 15% off full open</pre>

Not Applicable

Not Applicable

ALLOWABLE VALUES

>7.5% of narrow range instrument span-each steam generator

 \leq 42.5% of full steam flow at RATED THERMAL POWER coincident with steam generator water level \geq 24% of narrow range instrument span--each steam generator

> 2850 volts-each bus

> 56.4 Hz - each bus

<u>></u> 45 psig

 \leq 15% off full open

Not Applicable

Not Applicable

SALEM - UNIT

2-6

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT

- 13. Steam Generator Water Level--Low-Low
- 14. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level
- 15. Undervoltage-Reactor Coolant Pumps
- 16. Underfrequency-Reactor Coolant Pumps
- 17. Turbine Trip A. Low Trip System Pressure
 - B. Turbine Stop Valve Closure
- 18. Safety Injection Input from SSPS
- 19. Reactor Coolant Pump Breaker Position Trip

TRIP SETPOINT

>8.5% of narrow range instrument span-each steam generator

< 40% of full steam flow at RATED THERMAL POWER coincident with steam generator water level \geq 25% of narrow range instrument span--each steam generator

> 2900 volts-each bus

 \geq 56.5 Hz - each bus

<u>></u> 45 psig

< 15% off full open

Not Applicable

Not Applicable

ALLOWABLE VALUES

 \geq 7.5% of narrow range instrument span-each steam generator

< 42.5% of full steam flow at RATED THERMAL POWER coincident with steam generator water level \geq 24% of narrow range instrument span--each steam generator

> 2850 volts-each bus

> 56.4 Hz - each bus

> 45 psig

< 15% off full open

Not Applicable

Not Applicable

SALEM - UNIT

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