

ATTACHMENT 3

PROPOSED TECHNICAL SPECIFICATIONS

Marked-up Technical Specification Pages:

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B 3/4 7-1

Insert "A" to page 3/4 7-1

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3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line Code safety valves associated with each steam generator shall be OPERABLE with lift settings as specified in Table 3.7-2.

APPLICABILITY: MODES 1, 2, and 3. ^{*}
↑ Add

ACTION:

With (3) reactor coolant loops and associated steam generators in operation and with one or more main steam line Code safety valves inoperable, operation in MODES 1, 2, and 3 may proceed provided, that within 4 hours, either the inoperable valve is restored to OPERABLE status or the Power Range Neutron Flux High Trip Setpoint is reduced per Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.1 No additional requirements other than those required by Specification 4.0.5.

Add ↘

* In Mode 3, when the Reactor Trip System breakers are in the closed position and the Control Rod Drive System is capable of rod withdrawal.

10/10 - 1

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TABLE 3.7-1

MAXIMUM ALLOWABLE POWER RANGE NEUTRON FLUX HIGH SETPOINT WITH
INOPERABLE STEAM LINE SAFETY VALVES DURING THREE LOOP OPERATION

<u>MAXIMUM NUMBER OF INOPERABLE SAFETY VALVES ON ANY OPERATING STEAM GENERATOR</u>	<u>MAXIMUM ALLOWABLE POWER RANGE NEUTRON FLUX HIGH SETPOINT (PERCENT OF RATED THERMAL POWER)</u>
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1
2
3

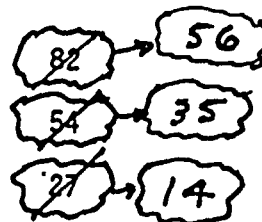


TABLE 3.7-2

STEAM LINE SAFETY VALVES PER LOOP

<u>VALVE NUMBER</u>				<u>LIFT SETTING ($\pm 1\%$)*</u>	<u>ORIFICE SIZE SQUARE INCHES</u>
	<u>Loop A</u>	<u>Loop B</u>	<u>Loop C</u>		
1.	RV1400	RV1405	RV1410	1085 psig	16
2.	RV1401	RV1406	RV1411	1100 psig	16
3.	RV1402	RV1407	RV1412	1115 psig	16
4.	RV1403	RV1408	RV1413	1130 psig	16

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

3/4.7 PLANT SYSTEMS

BASES

3/4.7.1 TURBINE CYCLE

3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam line Code safety valves ensures that the Secondary System pressure will be limited to within 110% (1193.5 psig) of its design pressure of 1085 psig during the most severe anticipated system operational transient. The maximum relieving capacity is associated with a Turbine trip from 100% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink (i.e., no steam bypass to the condenser).

The specified valve lift settings and relieving capacities are in accordance with the requirements of Section VIII of the ASME Boiler and Pressure Code, 1971 Edition. The total relieving capacity for all valves on all of the steam lines is 10,670,000 lbs/h which is 111% of the total secondary steam flow of 9,600,000 lbs/h at 100% RATED THERMAL POWER. A minimum of one OPERABLE safety valves per steam generator ensures that sufficient relieving capacity is available for the allowable THERMAL POWER restriction in Table 3.7-2.

STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the ACTION requirements on the basis of the reduction in Secondary Coolant System steam flow and THERMAL POWER required by the reduced Reactor trip settings of the Power Range Neutron Flux channels. The Reactor Trip Setpoint reductions are derived on the following bases:

<p>Where:</p> <p>$SP = \frac{(X) - (Y)(V)}{X} \times (109)$</p> <p>SP = Reduced Reactor Trip Setpoint in percent of RATED THERMAL POWER, V = Maximum number of inoperable safety valves per steam line, 109 = Power Range Neutron Flux-High Trip Setpoint, X = Total relieving capacity of all safety valves per steam line in lbs/hour, and Y = Maximum relieving capacity of any one safety valve in lbs/hour</p>	<p>REPLACE WITH INSERT</p>
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3/4.7.1.2 AUXILIARY FEEDWATER SYSTEM

The OPERABILITY of the Auxiliary Feedwater System ensures that the Reactor Coolant System can be cooled down to less than 350°F from normal operating conditions in the event of a total loss-of-offsite power. Steam can be

INSERT FOR BASES 3/4.7.1.1

$$Hi \phi = (100/Q) \frac{(w_s h_{fg} N)}{K}$$

where:

- Hi ϕ = Safety Analysis power range high neutron flux setpoint, percent
- Q = Nominal Nuclear Steam Supply System (NSSS) power rating of the plant (including reactor coolant pump heat), Mwt
- K = Conversion factor; 947.82 (Btu/sec)/Mwt
- w_s = Minimum total steam flow rate capability of the operable MSSVs on any one steam generator at the highest MSSV opening pressure (including tolerance and accumulation) - (Lbm/sec). For example, if the maximum number of inoperable MSSVs on any one steam generator is one, then w_s should be a summation of the capacity of the operable MSSVs at the highest operable MSSV operating pressure, excluding the highest capacity MSSV. If the maximum number of inoperable MSSVs per steam generator is three, then w_s should be a summation of the capacity of the operable MSSV at the highest operable MSSV operating pressure, excluding the three highest capacity MSSVs.
- h_{fg} = Heat of vaporization for steam at the highest MSSV opening pressure (including tolerance and accumulation) - (Btu/lbm)
- N = Number of loops in plant

The values calculated from this algorithm must then be adjusted lower for use in TS 3.7.1.1 to account for instrument and channel uncertainties. The maximum plant operating power level would then be lower than the reactor protection system setpoint by an appropriate operating margin.

