

ATTACHMENT 3

PROPOSED TECHNICAL SPECIFICATIONS

Marked-up Technical Specification Pages:

3/4 7-1

3/4 7-2

B 3/4 7-1

Inserts A and B

Insert for BASES 3/4.7.1.1

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PDR ADOCK 05000250  
PDR

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.

ACTION:

INSERT (A) - here

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.

(DELETE)

SURVEILLANCE REQUIREMENTS

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

INSERT (B) - here

Insert (A)

With (3) reactor coolant loops and associated steam generators in operation and with one or more main steam line Code safety valves inoperable, and

- a. with a positive Moderator Temperature Coefficient, operation in MODES 1 and 2 may continue provided, that within 4 hours, either the inoperable valve(s) is restored to OPERABLE status or reduce the Power Range Neutron Flux High Trip Setpoint to the maximum allowable percent of RATED THERMAL POWER listed in Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 12 hours, or
- b. with a negative or zero Moderator Temperature Coefficient, operation in MODES 1, 2, and 3 may continue provided, that within 4 hours, either the inoperable valve(s) is restored to OPERABLE status or reduce power to less than or equal to the maximum allowable percent of RATED THERMAL POWER listed in Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 12 hours.

Insert (B)

The provisions of Specifications 4.0.4 are not applicable for entry into MODE 3.

LEVEL

TABLE 3.7-1

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

MAXIMUM NUMBER OF INOPERABLE  
SAFETY VALVES ON ANY  
OPERATING STEAM GENERATOR

MAXIMUM ALLOWABLE POWER RANGE  
NEUTRON FLUX HIGH SETPOINT  
(PERCENT OF RATED THERMAL POWER)

LEVEL

1

2

3

82 ← 56  
54 ← 35  
27 ← 14

TABLE 3.7-2

STEAM LINE SAFETY VALVES PER LOOP

<u>VALVE NUMBER</u>			<u>LIFT SETTING (±1%)*</u>	<u>ORIFICE SIZE</u> <u>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.

(1971)

1971-1972

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### 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. 1

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:

$$SP = \frac{(X) - (Y)(V)}{X} \times (109)$$

Where:

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

REPLACE WITH  
INSERT

##### 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

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INSERT FOR TS BASES 3/4.7.1.1

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

where:

- Hi  $\phi$  = Reduced THERMAL POWER for the most limiting steam generator expressed as a percent of RTP
- 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.

Operation with less than all four MSSVs OPERABLE for each steam generator is permissible, if THERMAL POWER is proportionally limited to the relief capacity of the remaining MSSVs. This is accomplished by restricting THERMAL POWER so that the energy transfer to the most limiting steam generator is not greater than the available relief capacity in that steam generator.



