

ATTACHMENT A  
Existing Specifications  
and Bases

Unit 2

### 3/4.7 PLANT SYSTEMS

#### 3/4.7.1 TURBINE CYCLE

##### SAFETY VALVES

#### LIMITING CONDITION FOR OPERATION

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3.7.1.1 All main steam safety valves shall be OPERABLE with lift settings as specified in Table 3.7-1.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With both reactor coolant loops and associated steam generators in operation and with one or more main steam 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 Level-High trip setpoint is reduced per Table 3.7-2; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.7.1.1 No additional Surveillance Requirements other than those required by Specification 4.0.5.

TABLE 3.7-1  
MAIN STEAM SAFETY VALVES

VALVE NUMBER		LIFT SETTING (+ 1%) <sup>a</sup>	ORIFICE SIZE
Line No. 1	Line No. 2		
a. ZPSV-0401	ZPSV-0410	1100 psia	16 in <sup>2</sup>
b. ZPSV-0402	ZPSV-0411	1107 psia	16 in <sup>2</sup>
c. ZPSV-0403	ZPSV-0412	1114 psia	16 in <sup>2</sup>
d. ZPSV-0404	ZPSV-0413	1121 psia	16 in <sup>2</sup>
e. ZPSV-0405	ZPSV-0414	1128 psia	16 in <sup>2</sup>
f. ZPSV-0406	ZPSV-0415	1135 psia	16 in <sup>2</sup>
g. ZPSV-0407	ZPSV-0416	1142 psia	16 in <sup>2</sup>
h. ZPSV-0408	ZPSV-0417	1149 psia	16 in <sup>2</sup>
i. ZPSV-0409	ZPSV-0418	1155 psia	16 in <sup>2</sup>

<sup>a</sup> The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

TABLE 3.7-2

MAXIMUM ALLOWABLE VALUE LINEAR POWER LEVEL-HIGH TRIP WITH INOPERABLE  
MAIN STEAM SAFETY VALVES DURING OPERATION WITH BOTH STEAM GENERATORS

<u>Maximum Number of Inoperable Safety Valves on Any Operating Steam Generator</u>	<u>Maximum Allowable Value Linear Power Level-High Trip (Percent of RATED THERMAL POWER)</u>
1	98.6
2	86.3
3	74.0
4	61.6

### 3/4.7 PLANT SYSTEMS

#### BASES

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#### 3/4.7.1 TURBINE CYCLE

##### 3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam safety valves (MSSVs) ensures that the secondary system pressure will not exceed 110% (1210 psia) of its design pressure of 1100 psia during the most severe anticipated system operational transient. The total relief capacity available is greater than the maximum steam flow required after a turbine trip from 102% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink.

The MSSV lift setpoints are staggered, as shown in Table 3.7-1, such that only those valves needed for pressure relief will actuate. The MSSV lift settings and relieving capacities meet the requirements of Section III of the ASME Boiler and Pressure Vessel Code, 1974 Edition, as described in the Overpressure Protection Report (UFSAR Appendix 5.2A). The total available relieving capacity for all valves on all of the steam lines is 15,473,628 lbs/hr at 1190 psia. A minimum of one OPERABLE safety valve per steam generator ensures that sufficient relieving capacity is available for removing decay heat.

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 system steam flow and THERMAL POWER required by the reduced reactor trip settings of the Power Level-High channels. The reduced reactor trip allowable values are derived on the following bases:

$$SP = \frac{(X) - (Y)(V)}{X} \times 111.0$$

where:

SP = reduced reactor trip allowable value in percent of RATED THERMAL POWER.

V = maximum number of inoperable safety valves per steam line.

111.0 = Power Level-High Trip allowable value from Table 2.2-1.

X = Total relieving capacity of all safety valves per steam line in lbs/hour (7,736,814 lbs/hr at 1190 psia).

Y = Maximum relieving capacity of any one safety valve in lbs/hour (859,646 lbs/hr at 1190 psia).

ATTACHMENT B

Existing Specifications  
and Bases

Unit 3

### 3/4.7 PLANT SYSTEMS

#### 3/4.7.1 TURBINE CYCLE

##### SAFETY VALVES

#### LIMITING CONDITION FOR OPERATION

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3.7.1.1 All main steam safety valves shall be OPERABLE with lift settings as specified in Table 3.7-1.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With both reactor coolant loops and associated steam generators in operation and with one or more main steam 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 Level-High trip setpoint is reduced per Table 3.7-2; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.7.1.1 No additional Surveillance Requirements other than those required by Specification 4.0.5.

**TABLE 3.7-1**  
**MAIN STEAM SAFETY VALVES**

<u>VALVE NUMBER</u>		<u>LIFT SETTING (PSIA)<sup>a</sup></u>	<u>ORIFICE SIZE</u>
<u>Line No. 1</u>	<u>Line No. 2</u>		
a. 3PSV-0401	3PSV-0410	1100 psia	16 in <sup>2</sup>
b. 3PSV-0402	3PSV-0411	1107 psia	16 in <sup>2</sup>
c. 3PSV-0403	3PSV-0412	1114 psia	16 in <sup>2</sup>
d. 3PSV-0404	3PSV-0413	1121 psia	16 in <sup>2</sup>
e. 3PSV-0405	3PSV-0414	1128 psia	16 in <sup>2</sup>
f. 3PSV-0406	3PSV-0415	1135 psia	16 in <sup>2</sup>
g. 3PSV-0407	3PSV-0416	1142 psia	16 in <sup>2</sup>
h. 3PSV-0408	3PSV-0417	1149 psia	16 in <sup>2</sup>
i. 3PSV-0409	3PSV-0418	1155 psia	16 in <sup>2</sup>

<sup>a</sup>The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

TABLE 3.7-2

MAXIMUM ALLOWABLE VALUE LINEAR POWER LEVEL-HIGH TRIP WITH INOPERABLE  
MA-4 STEAM SAFETY VALVES DURING OPERATION WITH BOTH STEAM GENERATORS

<u>Maximum Number of Inoperable Safety Valves on Any Operating Steam Generator</u>	<u>Maximum Allowable Value Linear Power Level-High Trip (Percent of RATED THERMAL POWER)</u>
1	98.6
2	86.3
3	74.0
4	61.6

### 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 safety valves (MSSVs) ensures that the secondary system pressure will not exceed 110% (1210 psia) of its design pressure of 1100 psia during the most severe anticipated system operational transient. The total relief capacity available is greater than the maximum steam flow required after a turbine trip from 102% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink.

The MSSV lift setpoints are staggered, as shown in Table 3.7-1, such that only those valves needed for pressure relief will actuate. The MSSV lift settings and relieving capacities meet the requirements of Section III of the ASME Boiler and Pressure Vessel Code, 1974 Edition, as described in the Overpressure Protection Report (UFSAR Appendix 5.2A). The total available relieving capacity for all valves on all of the steam lines is 15,473,628 lbs/hr at 1190 psia. A minimum of one OPERABLE safety valve per steam generator ensures that sufficient relieving capacity is available for removing decay heat.

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 system steam flow and THERMAL POWER required by the reduced reactor trip settings of the Power Level-High channels. The reduced reactor trip allowable values are derived on the following bases:

$$SP = \frac{(X) - (Y)(V)}{X} \times 111.0$$

where:

SP = reduced reactor trip allowable value in percent of RATED THERMAL POWER.

V = maximum number of inoperable safety valves per steam line.

111.0 = Power Level-High Trip allowable value from Table 2.2-1.

X = Total relieving capacity of all safety valves per steam line in lbs/hour (7,736,814 lbs/hr at 1190 psia).

Y = Maximum relieving capacity of any one safety valve in lbs/hour (859,646 lbs/hr at 1190 psia).

ATTACHMENT C

Proposed Specifications  
and Bases

Unit 2

### 3/4.7 PLANT SYSTEMS

#### 3/4.7.1 TURBINE CYCLE

##### SAFETY VALVES

##### LIMITING CONDITION FOR OPERATION

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3.7.1.1 All main steam safety valves shall be OPERABLE with as-found lift settings as specified in Table 3.7-1.\*

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With both reactor coolant loops and associated steam generators in operation and with one or more main steam 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 Level High trip setpoint is reduced per the Maximum Allowable Steady State Power Level is reduced per Table 3.7-2;~~ otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD HOT SHUTDOWN within the following 30 12 hours.
- b. With one or more Steam Generators having less than five main steam safety valves OPERABLE, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 12 hours.
- b c. The provisions of Specification 3.0.4 are not applicable.

##### SURVEILLANCE REQUIREMENTS

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4.7.1.1 No additional Surveillance Requirements other than those required by Specification 4.0.5.

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\* Following testing according to Specification 4.0.5, MSSVs will be returned to within +/-1% of the lift setting specified in Table 3.7-1.

TABLE 3.7-1  
MAIN STEAM SAFETY VALVES

<u>VALVE NUMBER</u>		<u>LIFT SETTING (+/- 1%)*</u>	<u>ORIFICE SIZE</u>
<u>Line No. 1</u>	<u>Line No. 2</u>		
a. 3PSV-8401	3PSV-8410	1100 psia**	<del>16 in<sup>2</sup></del>
b. 3PSV-8402	3PSV-8411	1107 psia	<del>16 in<sup>2</sup></del>
c. 3PSV-8403	3PSV-8412	1114 psia	<del>16 in<sup>2</sup></del>
d. 3PSV-8404	3PSV-8413	1121 psia	<del>16 in<sup>2</sup></del>
e. 3PSV-8405	3PSV-8414	1128 psia	<del>16 in<sup>2</sup></del>
f. 3PSV-8406	3PSV-8415	1135 psia	<del>16 in<sup>2</sup></del>
g. 3PSV-8407	3PSV-8416	1142 psia	<del>16 in<sup>2</sup></del>
h. 3PSV-8408	3PSV-8417	1149 psia	<del>16 in<sup>2</sup></del>
i. 3PSV-8409	3PSV-8418	1155 psia	<del>16 in<sup>2</sup></del>

\*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure. Each MSSV has an as-found tolerance of +2%/-3%. Following testing according to Specification 4.0.5, MSSVs will be set within +/-1% of the specified lift setting.

\*\*Valves 3PSV-8401 and 3PSV-8410 have an as-found lift setting of 1100 psia with a tolerance of +/-1%/-3%.

TABLE 3.7-2

MAXIMUM ALLOWABLE VALUE LINEAR POWER LEVEL HIGH TRIP STEADY STATE POWER LEVEL WITH  
INOPERABLE MAIN STEAM SAFETY VALVES DURING OPERATION WITH BOTH STEAM GENERATORS

<p>Maximum Minimum Number of Inoperable Operable Safety Valves on Any Operating per Operable Steam Generator</p>	<p>Maximum Allowable Value Linear Power Level High Trip Steady State Power (Percent of RATED THERMAL POWER)</p>
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1 8	98.6 97.0
2 7	86.3 84.0
3 6	74.0 72.0
4 5	61.6 58.0

### 3/4.7 PLANT SYSTEMS

#### BASES

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#### 3/4.7.1 TURBINE CYCLE

##### 3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam safety valves (MSSVs) ensures that the secondary system pressure will not exceed 110% (1210 psia) of its design pressure of 1100 psia during the most severe anticipated system operational transient. The total relief capacity available is greater than the maximum steam flow required after a turbine trip from 102% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink.

The MSSV lift setpoints are staggered, as shown in Table 3.7-1, such that only those valves needed for pressure relief will actuate. Column 3 and footnotes 1 and 2 of Table 3.7-1 specify the setpoints and tolerances which meet valve operability requirements consistent with the safety analysis assumptions. The MSSVs lift settings and relieving capacities meet were constructed in accordance with the requirements of Section III of the ASME Boiler and Pressure Vessel Code, 1974 Edition, as described in the Overpressure Protection Report (UFSAR Appendix 5.2A). The valves are tested under ASME Section XI per Technical Specification 4.0.5. The total available relieving capacity for all valves on all of the steam lines is 15,473,628 lbs/hr at 1190 psia. A minimum of one OPERABLE safety valve per steam generator ensures that sufficient relieving capacity is available for removing decay heat.

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 system steam flow and steady state THERMAL POWER. ~~required by the reduced reactor trip settings of the Power Level High channels. The reduced reactor trip allowable values are derived on the following bases:~~

Allowable Steady State Power Levels/Operating Modes with inoperable MSSVs are based on analysis of primary and secondary system pressures following Loss of Condenser Vacuum and Feedwater Line Break events initiated from the allowable power limit, conservatively biased for power measurement errors. Operation at or below the allowable power will ensure the design over-pressure limits will not be exceeded.

The lowest allowable lift setting of 1067 psia (1100 psia -3%) is bounded by existing analyses. The radiological release assumptions used in the Steam Generator Tube Rupture dose assessment bound the source terms which are based on a low MSSV setpoint of 1100 psia with 15% MSSV blowdown. Moreover, steam generator releases and integrated primary to secondary mass leakage with 15% MSSV blowdown from the lowest allowable lift setting of 1067 psia would not be significantly different from those assuming 15% blowdown from 1100 psia.

$$SP = \frac{(X) - (Y)(V)}{X} \times 111.0$$

where:

~~SP = reduced reactor trip allowable value in percent of RATED THERMAL POWER.~~

~~V = maximum number of inoperable safety valves per steam line.~~

~~111.0 = Power Level High Trip allowable value from Table 2.2-1.~~

~~X = Total relieving capacity of all safety valves per steam line in lbs/hour (7,736,814 lbs/hr at 1190 psia).~~

~~Y = Maximum relieving capacity of any one safety valve in lbs/hour (859,646 lbs/hr at 1190 psia).~~

ATTACHMENT D

Proposed Specifications  
and Bases  
Unit 3

### 3/4.7 PLANT SYSTEMS

#### 3/4.7.1 TURBINE CYCLE

##### SAFETY VALVES

##### LIMITING CONDITION FOR OPERATION

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3.7.1.1 All main steam safety valves shall be OPERABLE with as-found lift settings as specified in Table 3.7-1.\*

APPLICABILITY: MODES 1, 2 and 3.

##### ACTION:

- a. With both reactor coolant loops and associated steam generators in operation and with one or more main steam 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 Level High trip setpoint is reduced per the Maximum Allowable Steady State Power Level is reduced per Table 3.7-2;~~ otherwise, be in at least HOT STANDBY within the next 6 hours and in ~~COLD~~ HOT SHUTDOWN within the following ~~30~~ 12 hours.
- b. With one or more Steam Generators having less than five main steam safety valves OPERABLE, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 12 hours.
- ~~b~~ c. The provisions of Specification 3.0.4 are not applicable.

##### SURVEILLANCE REQUIREMENTS

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4.7.1.1 No additional Surveillance Requirements other than those required by Specification 4.0.5.

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\* Following testing according to Specification 4.0.5, MSSVs will be returned to within +/-1% of the lift setting specified in Table 3.7-1.

TABLE 3.7-1  
MAIN STEAM SAFETY VALVES

VALVE NUMBER			LIFT SETTING $\pm 1\%$ *	ORIFICE SIZE
	Line No. 1	Line No. 2		
a.	2PSV-8401	2PSV-8410	1100 psia**	<del>16 in<sup>2</sup></del>
b.	2PSV-8402	2PSV-8411	1107 psia	<del>16 in<sup>2</sup></del>
c.	2PSV-8403	2PSV-8412	1114 psia	<del>16 in<sup>2</sup></del>
d.	2PSV-8404	2PSV-8413	1121 psia	<del>16 in<sup>2</sup></del>
e.	2PSV-8405	2PSV-8414	1128 psia	<del>16 in<sup>2</sup></del>
f.	2PSV-8406	2PSV-8415	1135 psia	<del>16 in<sup>2</sup></del>
g.	2PSV-8407	2PSV-8416	1142 psia	<del>16 in<sup>2</sup></del>
h.	2PSV-8403	2PSV-8417	1149 psia	<del>16 in<sup>2</sup></del>
i.	2PSV-8409	2PSV-8418	1155 psia	<del>16 in<sup>2</sup></del>

\*The Lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure. Each MSSV has an as-found tolerance of +2%/-3%. Following testing according to Specification 4.0.5, MSSVs will be set within +/-1% of the specified lift setpoint.

\*\*Valves 2PSV-8401 and 2PSV-8410 have an as-found lift setting of 1100 psia with a tolerance of +1%/-3%.

TABLE 3.7-2

MAXIMUM ALLOWABLE VALUE LINEAR POWER LEVEL HIGH TRIP STEADY STATE POWER LEVEL WITH  
INOPERABLE MAIN STEAM SAFETY VALVES DURING OPERATION WITH BOTH STEAM GENERATORS

Maximum Minimum Number of Inoperable Operable Safety Valves on Any Operating per Operable Steam Generator	Maximum Allowable Linear Power Level High Trip Steady State Power (Percent of RATED THERMAL POWER)
4 8	98.6 97.0
2 7	86.3 84.0
3 6	74.0 72.0
4 5	61.6 58.0

### 3/4.7 PLANT SYSTEMS

#### BASES

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#### 3/4.7.1 TURBINE CYCLE

##### 3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam safety valves (MSSVs) ensures that the secondary system pressure will not exceed 110% (1210 psia) of its design pressure of 1100 psia during the most severe anticipated system operational transient. The total relief capacity available is greater than the maximum steam flow required after a turbine trip from 102% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink.

The MSSV lift setpoints are staggered, as shown in Table 3.7-1, such that only those valves needed for pressure relief will actuate. Column 3 and footnotes 1 and 2 of Table 3.7-1 specify the setpoints and tolerances which meet valve operability requirements consistent with the safety analysis assumptions. The MSSVs lift settings and relieving capacities meet were constructed in accordance with the requirements of Section III of the ASME Boiler and Pressure Vessel Code, 1974 Edition, as described in the Overpressure Protection Report (UFSAR Appendix 5.2A). The valves are tested under ASME Section XI per Technical Specification 4.0.5. The total available relieving capacity for all valves on all of the steam lines is 15,473,628 lbs/hr at 1190 psia. A minimum of one OPERABLE safety valve per steam generator ensures that sufficient relieving capacity is available for removing decay heat.

STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the TION requirements on the basis of the reduction in secondary system steam flow and steady state THERMAL POWER, ~~required by the reduced reactor trip settings of the Power Level High channels. The reduced reactor trip allowable values are derived on the following bases:~~

Allowable Steady State Power Levels/Operating Modes with inoperable MSSVs are based on analysis of primary and secondary system pressures following Loss of Condenser Vacuum and Feedwater Line Break events initiated from the allowable power limit, conservatively biased for power measurement errors. Operation at or below the allowable power will ensure the design over-pressure limits will not be exceeded.

The lowest allowable lift setting of 1067 psia (1100 psia -3%) is bounded by existing analyses. The radiological release assumptions used in the Steam Generator Tube Rupture dose assessment bound the source terms which are based on a low MSSV setpoint of 1100 psia with 15% MSSV blowdown. Moreover, steam generator releases and integrated primary to secondary mass leakage with 15% MSSV blowdown from the lowest allowable lift setting of 1067 psia would not be significantly different from those assuming 15% blowdown from 1100 psia.

$$SP = \frac{(X) - (Y)(V)}{X} \times 111.0$$

where:

SP = reduced reactor trip allowable value in percent of RATED THERMAL POWER.

V = maximum number of inoperable safety valves per steam line.

111.0 = Power Level High Trip allowable value from Table 2.2-1.

X = Total relieving capacity of all safety valves per steam line in lbs/hour (7,736,814 lbs/hr at 1190 psia).

Y = Maximum relieving capacity of any one safety valve in lbs/hour (859,646 lbs/hr at 1190 psia).