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### LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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REACTOR COOLANT SYSTEM

3/4.4.2 SAFETY VALVES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

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DELETED

## REACTOR COOLANT SYSTEM

### 3/4.4.3 SAFETY AND RELIEF VALVES - OPERATING

#### SAFETY VALVES - OPERATING

#### LIMITING CONDITION FOR OPERATION

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3.4.3.1 All pressurizer code safety valves shall be OPERABLE with a lift setting of 2485 PSIG  $\pm$  3%.\*

APPLICABILITY: MODES 1, 2 and 3.

#### ACTION:

- a. With one pressurizer safety valve inoperable, restore the inoperable valve to OPERABLE status within 15 minutes.
- b. With two or more pressurizer safety valves inoperable or with ACTION (a) above not completed within 15 minutes, be in HOT STANDBY within 6 hours and be in HOT SHUTDOWN within the following 6 hours.

#### SURVEILLANCE REQUIREMENTS

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4.4.3.1 No additional Surveillance Requirements other than those required by Specification 4.0.5. Following testing, lift settings shall be within  $\pm$  1%.

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

## REACTOR COOLANT SYSTEM

### RELIEF VALVES - OPERATING

#### LIMITING CONDITION FOR OPERATION

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3.4.3.2 Two power relief valves (PORVs) and their associated block valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one or more PORV(s) inoperable, but capable of RCS pressure control, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With one PORV inoperable and incapable of RCS pressure control, within 1 hour either restore the PORV to OPERABLE status or close the associated block valve and remove power from the block valve; restore the PORV to OPERABLE status within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- c. With both PORVs inoperable and incapable of RCS pressure control, within 1 hour either restore each of the PORVs to OPERABLE status or close their associated block valves and remove power from the block valves and be in HOT STANDBY within the next 6 hours and HOT SHUTDOWN within the following 6 hours.
- d. With one or more block valve(s) inoperable, within 1 hour: (1) restore the block valve(s) to OPERABLE status, or close the block valve(s) and remove power from the block valve(s), or close the PORV(s) and remove power from its associated solenoid valve(s); and (2) apply the ACTION b. or c. above, as appropriate, for the isolated PORV(s).
- e. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.4.3.2.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE at least once per 18 months by:

- a. DELETED
- b. Operating the valve through one complete cycle of full travel during Mode 3, 4, or 5 with a steam bubble in the pressurizer.

4.4.3.2.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel.

## EMERGENCY CORE COOLING SYSTEMS (ECCS)

### 3/4.5.2 ECCS SUBSYSTEMS - $T_{avg}$ Greater Than or Equal to 350°F

#### LIMITING CONDITION FOR OPERATION

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- 3.5.2 Two independent ECCS subsystems shall be OPERABLE\* with each subsystem comprised of:
- One OPERABLE centrifugal charging pump,
  - One OPERABLE safety injection pump,
  - One OPERABLE residual heat removal heat exchanger,
  - One OPERABLE residual heat removal pump, and
  - An OPERABLE flow path capable of taking suction from the refueling water storage tank on a safety injection signal and automatically transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

#### SURVEILLANCE REQUIREMENTS

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- 4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:
- At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

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\* In MODE 3, ECCS pumps may be made incapable of injecting to support transition into or from the APPLICABILITY of LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) System," for up to four hours or until the temperature of all RCS cold legs exceeds LTOP arming temperature specified in the PTLR plus 25°F, whichever comes first.

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REACTOR COOLANT SYSTEM

3/4.4.2 SAFETY VALVES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

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DELETED

## REACTOR COOLANT SYSTEM

### 3/4.4.3 SAFETY AND RELIEF VALVES - OPERATING

#### SAFETY VALVES - OPERATING

#### LIMITING CONDITION FOR OPERATION

---

3.4.3.1 All pressurizer code safety valves shall be OPERABLE with a lift setting of 2485 PSIG  $\pm$  3%.\*

APPLICABILITY: MODES 1, 2 and 3.

#### ACTION:

- a. With one pressurizer safety valve inoperable, restore the inoperable valve to OPERABLE status within 15 minutes.
- b. With two or more pressurizer safety valves inoperable or with ACTION (a) above not completed within 15 minutes, be in HOT STANDBY within 6 hours and be in HOT SHUTDOWN within the following 6 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.4.3.1 No additional Surveillance Requirements other than those required by Specification 4.0.5. Following testing, lift settings shall be within  $\pm$  1%.

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



## REACTOR COOLANT SYSTEM

### RELIEF VALVES - OPERATING

#### LIMITING CONDITION FOR OPERATION

---

3.4.3.2 All power operated relief valves (PORVs) and their associated block valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one or more PORV(s) inoperable, but capable of RCS pressure control, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With one PORV inoperable and incapable of RCS pressure control, within 1 hour either restore the PORV to OPERABLE status or close the associated block valve and remove power from the block valve; restore the PORV to OPERABLE status within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- c. With both PORVs inoperable and incapable of RCS pressure control, within 1 hour either restore each of the PORVs to OPERABLE status or close their associated block valves and remove power from the block valves and be in HOT STANDBY within the next 6 hours and HOT SHUTDOWN within the following 6 hours.
- d. With one or more block valve(s) inoperable, within 1 hour: (1) restore the block valve(s) to OPERABLE status, or close the block valve(s) and remove power from the block valve(s), or close the PORV(s) and remove power from its associated solenoid valve(s); and (2) apply the ACTION b. or c. above, as appropriate, for the isolated PORV(s).
- e. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.4.3.2.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE at least once per 18 months by:

- a. DELETED
- b. Operating the valve through one complete cycle of full travel during Modes 3, 4, or 5 with a steam bubble in the pressurizer.

4.4.3.2.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel.

## EMERGENCY CORE COOLING SYSTEMS

### 3/4.5.2 ECCS SUBSYSTEMS - $T_{avg}$ Greater Than or Equal to 350°F

#### LIMITING CONDITION FOR OPERATION

---

3.5.2 Two independent emergency core cooling system (ECCS) subsystems shall be OPERABLE\* with each subsystem comprised of:

- a. One OPERABLE centrifugal charging pump,
- b. One OPERABLE safety injection pump,
- c. One OPERABLE residual heat removal heat exchanger,
- d. One OPERABLE residual heat removal pump, and
- e. An OPERABLE flow path capable of taking suction from the refueling water storage tank on a safety injection signal and automatically transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODES 1, 2 and 3.

#### ACTION:

With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

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\* In MODE 3, ECCS pumps may be made incapable of injecting to support transition into or from the APPLICABILITY of LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) System," for up to four hours or until the temperature of all RCS cold legs exceeds LTOP arming temperature specified in the PTLR plus 25°F, whichever comes first.