

LCR 91-06 (Rev. 1)
NLR-N92156

ATTACHMENT 1

REQUEST FOR LICENSE AMENDMENT
INCORPORATION OF GENERIC LETTER 90-06 REQUIREMENTS
SALEM GENERATING STATION UNITS 1 AND 2
FACILITY OPERATING LICENSE NOS. DPR-70 AND DPR-75
DOCKET NOS. 50-272 AND 50-311

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I. Description of Change

This amendment change request proposes that existing Technical Specification 3.1.2.3, "CHARGING PUMP - SHUTDOWN", be administratively revised such that:

- A surveillance is added to verify that all safety injection pumps and centrifugal charging pumps are inoperable except for the single pump required to be operable. This guidance is currently provided in technical specification 3.5.3 but is being restated here for clarity.
- A note is added to specify that a maximum of one safety injection pump or one centrifugal charging pump shall be operable in Mode 5 or Mode 6 when the head is on the reactor vessel. This guidance is currently provided in technical specification 3.5.3 but is being restated here for clarity.

This amendment change request proposes that existing Technical Specification 3.1.2.4, "CHARGING PUMPS - OPERATING", be administratively revised such that:

- A surveillance is added to verify that all safety injection pumps and centrifugal charging pumps are inoperable except for the single pump required to be operable while in Mode 4 and the temperature of any cold leg is less than or equal to 312°F. This guidance is currently provided in technical specification 3.5.3 but is being restated here for clarity.
- A note is added to specify that a maximum of one safety injection pump or one centrifugal charging pump shall be operable in Mode 4 when the temperature of any cold leg is less than or equal to 312°F. This guidance is currently provided in technical specification 3.5.3 but is being restated here for clarity.

This amendment change request proposes that existing Technical Specification 3/4.4.3 for DPR-70 (Unit 1) and 3/4.4.5 for DPR-75 (Unit 2), "RELIEF VALVES", be revised such that:

- With one or both Power Operated Relief Valves (PORVs) inoperable due to excessive leakage, continued plant operation shall be permitted only if the associated Block Valve(s) is closed with power maintained.

- With one PORV inoperable for reasons other than excessive leakage, continued plant operation shall be permitted only if the associated Block Valve is closed and de-energized within one hour and the affected PORV is returned to operable status within 72 hours.
- With both PORVs inoperable for reasons other than excessive leakage, continued plant operation shall be permitted only if at least one PORV can be restored to operable status within 6 hours.
- With one or both Block Valve(s) inoperable, either the valve(s) shall be restored to operable status or the associated PORVs shall be placed in manual control within one hour. If both Block Valves are inoperable, at least one shall be restored to operable status within the next 6 hours. Any remaining inoperable Block Valve shall be restored to operable status within 72 hours.
- Each PORV shall be demonstrated operable on an 18 month test interval by: 1) operating the valve through one complete cycle of travel during Modes 3 or 4, 2) operating solenoid, control, and check valves associated with the PORV accumulators through one complete cycle of travel, and 3) performing a channel calibration of the actuation instrumentation.
- Each Block Valve shall be demonstrated operable on a 92 day test interval by operating the valve through one complete cycle of travel.

This amendment change request proposes that existing Technical Specification 3.4.9.3 for DPR-70 and 3.4.10.3 for DPR-75, "OVERPRESSURE PROTECTION SYSTEMS", be revised such that:

- With one PORV inoperable in Mode 4, the inoperable PORV shall be restored to operable status within 7 days or the reactor coolant system shall be vented within the next 8 hours.
- With one PORV inoperable in Modes 5 or 6 with the Reactor Vessel Head installed, the inoperable PORV shall be restored to operable status within 24 hours or the reactor coolant system shall be vented within a total of 32 hours.
- The reference to the specific ASME valve category is deleted from the surveillance requirements for consistency (applicable to DPR-70 only).

Finally, this amendment change request proposes that existing Technical Specification 3.5.3, "ECCS SUBSYSTEMS - T ave < 350°F", be administratively revised such that:

- The applicability of the note pertaining to the LCO and surveillance 4.5.3.1 is reworded for clarity.

II. Reason for Proposed Change

PSE&G is submitting this amendment request in partial fulfillment of the requirements set forth in NRC Generic Letter (GL) 90-06 dated June 25, 1990. GL 90-06 provided the staff's positions on the resolution of Generic Issue 70 (GI-70), "Power-Operated Relief Valve and Block Valve Reliability", and Generic Issue 94 (GI-94), "Additional Low-Temperature Overpressure Protection for Light-Water Reactors".

Following the TMI-2 accident, the NRC initiated an effort to evaluate the role of PORVs in performing certain safety-related functions. Consequently, the NRC determined that over a period of time, the role of PORVs has changed such that PORVs are now relied upon by various plants to perform one, or more, of the following safety-related functions:

1. Mitigation of a design-basis steam generator tube rupture accident,
2. Low-temperature overpressure protection of the reactor vessel during startup and shutdown, and/or,
3. Plant cooldown in compliance with Branch Technical Position RSB 5-1 to SRP 5.4.7, "Residual Heat Removal (RHR) System".

Based on these findings, it was determined that the safety classification of PORVs and block valves should be reconsidered. The NRC subsequently issued a list of actions in GL 90-06 as part of the technical resolution of GI-70 to be taken by PWR plants to increase the reliability of PORVs and block valves and provide assurance that they will function as required in response to a Steam Generator Tube Rupture event. One of the required actions delineated in GL 90-06 is to modify the existing technical specifications for the PORVs and block valves in Modes 1, 2, and 3.

GI-94 arose as a result of continuing low-temperature overpressure events and the unavailability of Low-Temperature Overpressure Protection (LTOP) channels. PORVs are relied upon by most Westinghouse PWRs, Salem included, to provide

low-temperature overpressure protection. Based on the NRC evaluation of the LTOP system unavailability, it was concluded that additional restrictions are warranted and that existing technical specifications should be modified for the affected plants.

The technical specification changes encompassed by this amendment request are those that have resulted from the resolutions of GI-70 and GI-94 and which have been delineated and justified by the NRC in GL 90-06. Where differences exist between the modified technical specifications provided in GL 90-06 and those contained in this amendment request, full justification has been provided.

III. Justification for the Proposed Change

Specifications 3.1.2.3, "CHARGING PUMP - SHUTDOWN", and 3.1.2.4, "CHARGING PUMP - OPERATING".

The changes that are proposed for specifications 3.1.2.3 and 3.1.2.4 are in response to the requirements delineated and justified in GL 90-06, Enclosure B, pages B-10 and B-11. These requirements provide Low Temperature Overpressure Protection (LTOP) and apply when: 1) the plant is in Mode 4 and any RCS cold leg temperature is less than or equal to 312°F (plant specific value), 2) Mode 5, and 3) Mode 6 when the head is on the reactor vessel. LTOP is provided by allowing a maximum of one safety injection pump or one centrifugal charging pump to be operable thereby limiting the largest potential mass addition to the RCS to within the capability of the LTOP system.

This guidance is currently contained in specification 3.5.3, "ECCS - T ave < 350°F". However, since specification 3.5.3 is only applicable in Mode 4, it was felt prudent to restate the guidance in specification 3.1.2.3, applicable in Modes 5 and 6, and specification 3.1.2.4, applicable in Modes 1, 2, 3, and 4, for improved clarity.

As these changes do not delineate any new or differing guidance and are proposed for clarity only, they are considered administrative in nature.

Specification 3/4.4.3 (DPR-70, Unit 1) and 3/4.4.5 (DPR-75, Unit 2), "RELIEF VALVES".

The changes that are proposed for specification 3/4.4.3 (DPR-70, Unit 1) and 3/4.4.5 (DPR-75, Unit 2) are in response to the requirements delineated in GL 90-06, Enclosure A, pages A-4, A-5, and A-7 and justified on pages A-8 through A-10. These requirements are based on improving the reliability of PORVs and block valves.

The modified technical specifications contained on pages A-4, A-5, and A-7 of Enclosure A to GL 90-06 have been fully incorporated into this amendment request with the following exceptions:

- . The surveillance requirement to test the emergency power supply for the PORVs and block valves has been deleted.
- . With both PORVs inoperable in Modes 1, 2, or 3 for reasons other than excessive seat leakage or both Block valves are inoperable, an allowed outage time of 6 hours to restore 1 block valve or PORV to operable status has been requested.

The surveillance requirement to test the emergency power supply for the PORVs and block valves has not been incorporated into this amendment request because these valves receive power from safety-related, diesel-backed busses. The operability of these busses is verified by surveillance requirements pertaining to electrical power systems (Technical Specification 3.8.1.1).

The Generic Letter 90-06 requirement to restore a Block valve or PORV to operable status within 1 hour if both PORVs are determined to be inoperable for reasons other than excessive seat leakage or both block valves are inoperable has not been incorporated. An Allowed Outage Time (AOT) of 6 hours has been requested for these Limiting Conditions for Operation. The basis for the increase for these AOTs from 1 hour to 6 hours is to enable sufficient time for containment entry to assess and implement, if possible, minor corrective actions to return inoperable PORV(s) or block valves to operable status. The additional time requested would allow the correction of minor deficiencies, and therefore allow the plant to continue to operate without bringing the plant through a shutdown transient. Plant shutdown under these action statements would result in the entry to a lower mode of operation which requires the PORVs to be operable to provide a Low Temperature Overpressure Protection (LTOP) function.

Specification 3.4.9.3 (DPR-70, Unit 1) and 3.4.10.3 (DPR-75, Unit 2), "OVERPRESSURE PROTECTION SYSTEMS".

The changes that are proposed for specifications 3.4.9.3 (DPR-70, Unit 1) and 3.4.10.3 (DPR-75, Unit 2) are in response to the requirements delineated in GL 90-06, Enclosure B, pages B-6 and B-7 and justified on pages B-8 and B-9. These requirements seek to instill improved administrative restrictions on the Low Temperature Overpressure Protection (LTOP) System thereby improving availability when the potential for an overpressure event is the highest and especially during water-solid conditions.

Salem Units 1 and 2 currently have technical specifications pertaining to PORVs used for LTOP; therefore, the only changes that have been proposed for these sections are to restrict the applicability of Action a to Mode 4 and to incorporate Action b from the modified technical specifications delineated in GL 90-06, Enclosure B, pages B-6 and B-7. This is in compliance with the instructions given on page B-8 of the GL.

One additional administrative change has been proposed for the Unit 1 technical specification. The reference to the specific ASME valve category has been deleted from surveillance requirement 4.4.9.3.1 (DPR-70). This type of information is contained in the In-Service Test Program and is not normally included in technical specifications.

Specification 3.5.3, "ECCS SUBSYSTEMS - T ave < 350°F".

Changes are proposed for specification 3.5.3 in order to more clearly specify the applicability of Surveillance 4.5.3.1. and the note pertaining to the LCO. The surveillance and note apply when: 1) the plant is in Mode 4 and any RCS cold leg temperature is less than or equal to 312°F (plant specific value), 2) Mode 5, and 3) Mode 6 when the head is on the reactor vessel.

Since this specification is applicable only in Mode 4, the guidance provided by the surveillance and note has been restated in specification 3.1.2.3, applicable in Modes 5 and 6, and specification 3.1.2.4, applicable in Modes 1, 2, 3, and 4.

As these changes do not delineate any new or differing guidance and are proposed for clarity only, they are considered administrative in nature.

IV. Significant Hazards Consideration

PSE&G has, pursuant to 10 CFR 50.92, reviewed the proposed amendment to determine whether our request involves a significant hazards consideration. We have determined that operation of Salem Units 1 and 2 in accordance with the proposed change:

1. Will not involve a significant increase in the probability or consequences of an accident or malfunction of equipment important to safety previously evaluated. This change will instill administrative restrictions on the Low Temperature Overpressure Protection System and the PORVs thereby improving reliability and availability to respond to a Steam Generator Tube Rupture and overpressure transient. The proposed amendment requires that power be maintained to block valves that are closed to isolate a leaking PORV. This change ensures that the block valves can be opened on demand from the control room. Power is maintained to the

block valves so that it is operable and may be subsequently opened to allow the PORV to be used to control reactor pressure. This change actually improves overall plant safety. Therefore, the proposed amendment does not involve a procedural or physical change to any structure, system or component that significantly affects accident/malfunction probabilities or consequences previously evaluated in the UFSAR.

2. Will not create the possibility of a new or different kind of accident from any previously evaluated. The proposed amendment does not involve any physical changes to plant structures, components, or systems. With the exception of maintaining power to a block valve closed to isolate a leaking PORV, which does not create the possibility of a new or different kind of accident, the proposed change will not impose any different requirements on plant operation. Therefore, the proposed changes do not create the possibility of a new or different accident from any previously evaluated.
3. Will not involve a significant reduction in a margin of safety. The proposed changes actually increase the overall margin of safety by improving the availability and reliability of the PORVs and Block valves in response to Steam Generator Tube Rupture events, and the PORVs in response to overpressure transients.

V. Conclusions

Based on the above discussions and those presented in the Justification Section, it has been determined that the proposed Technical Specification revisions do not involve a significant increase in the probability or consequences of an accident over previous evaluations, create the possibility of a new or different kind of accident, or involve a significant reduction in a margin of safety. Therefore, the requested license amendment does not involve a significant hazards consideration.

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ATTACHMENT 2

REQUEST FOR LICENSE AMENDMENT
INCORPORATION OF GENERIC LETTER 90-06 REQUIREMENTS
SALEM GENERATING STATION UNITS 1 AND 2
FACILITY OPERATING LICENSE NOS. DPR-70 AND DPR-75
DOCKET NOS. 50-272 AND 50-311

TECHNICAL SPECIFICATION PAGES WITH PEN AND INK CHANGES

The following Technical Specifications are affected by this requested amendment:

Facility Operating License No. DPR-70 (Unit 1)

<u>Technical Specification</u>	<u>Page</u>
3.1.2.3	3/4.1-10
3.1.2.4	3/4 1-11
3/4.4.3	3/4 4-5
3.4.9.3	3/4 4-30
	3/4 4-31
3.5.3	3/4 5-6
	3/4 5-6a

Facility Operating License No. DPR-75 (Unit 2)

<u>Technical Specification</u>	<u>Page</u>
3.1.2.3	3/4 1-9
3.1.2.4	3/4 1-10
3/4.4.5	3/4 4-8
3.4.10.3	3/4 4-31
3.5.3	3/4 5-7
	3/4 5-8

REACTIVITY CONTROL SYSTEMS

CHARGING PUMP - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.3 At least one charging pump in the boron injection flow path required by Specification 3.1.2.1 shall be OPERABLE. #

APPLICABILITY: MODES 5 and 6.

ACTION:

With no charging pump OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until one charging pump is restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

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

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4.1.2.3 In addition to the requirements of Specification 4.0.5, all safety injection pumps and centrifugal charging pumps, except the above required OPERABLE pump, shall be demonstrated to be inoperable at least once per 12 hours while in MODE 5 or MODE 6 and the head is on the reactor vessel by either of the following methods:

- a. By verifying that the motor circuit breakers have been removed from their electrical power supply circuits, or
- b. For testing purposes, by verifying that the pump is in a recirculation flow path and that the manual discharge valve is closed.

Insert B for page 3/4 1-10

A maximum of one safety injection pump or one centrifugal charging pump shall be OPERABLE while in MODE 5 or MODE 6 and the head is on the reactor vessel.

REACTIVITY CONTROL SYSTEMS

CHARGING PUMPS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.4 At least two charging pumps shall be OPERABLE. #

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one charging pump OPERABLE, restore at least two charging pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 1% $\Delta k/k$ at 200°F within the next 6 hours; restore at least two charging pumps to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

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

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All safety injection pumps and centrifugal charging pumps, except the above required OPERABLE pump, shall be demonstrated to be inoperable at least once per 12 hours while in MODE 4 and the temperature of one or more of the RCS cold legs is less than or equal to 312°F by either of the following methods:

- a. By verifying that the motor circuit breakers have been removed from their electrical power supply circuits, or
- b. For testing purposes, by verifying that the pump is in a recirculation flow path and that the manual discharge valve is closed.

Insert B for page 3/4 1-11

A maximum of one safety injection pump or one centrifugal charging pump shall be OPERABLE in MODE 4 when the temperature of one or more of the RCS cold legs is less than or equal to 312°F.

REACTOR COOLANT SYSTEM

3/4.4.3 RELIEF VALVES

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

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- a. With one or more PORV(s) inoperable, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) and remove power from the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 - b. With one or more block valve(s) inoperable, within 1 hour either restore the block valve(s) to OPERABLE status or close the block valve(s) and remove power from the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 - c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

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4.4.3.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE at least once per 18 months by performance of a CHANNEL CALIBRATION and operating the valve through one complete cycle of full travel.

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

Insert A for page 3/4 4-5:

- a. With one or both PORVs inoperable because of excessive seat leakage, within 6 hours either restore the PORV(s) to OPERABLE status or close the associated block valve(s) with power maintained to the 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 due to causes other than excessive seat leakage, within 6 hours either restore the PORV to OPERABLE status or close its 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 due to causes other than excessive seat leakage, within 6 hours either restore at least one PORV to OPERABLE status or close the associated block valves and remove power from the block valves and be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- d. With one block valve inoperable, within 1 hour restore the block valve to OPERABLE status or place the associated PORV in manual control; restore the block valve 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.
- e. With both block valves inoperable, within 1 hour restore the block valves to OPERABLE status or place the associated PORVs in manual control; restore at least one block valve to OPERABLE status within the next 6 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- f. The provisions of Specification 3.0.4 are not applicable.

Insert B for page 3/4 4-5:

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

- a. Operating the PORV through one complete cycle of full travel during MODES 3 or 4, and
- b. Operating solenoid valves, air control valves, and check valves on associated air accumulators in PORV control systems through one complete cycle of full travel, and
- c. Performing a CHANNEL CALIBRATION of the actuation instrumentation.

4.4.3.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed in order to meet the requirements of ACTION b, or c in Specification 3.4.3.

REACTOR COOLANT SYSTEM

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.9.3 At least one of the following overpressure protection systems shall be OPERABLE:

- a. Two Pressurizer Overpressure Protection System relief valves (POPs) with a lift setting of less than or equal to 375 psig, or
- b. A reactor coolant system vent of greater than or equal to 3.14 square inches.

APPLICABILITY: When the temperature of one or more ^{of} the RCS cold legs is less than or equal to 312°F, except when the reactor vessel head is removed.

ACTION:

in MODE 4 and the temperature of one or more of the RCS cold legs is less than or equal to 312°F

- a. With one POPs inoperable, either restore the inoperable POPs to OPERABLE status within 7 days or depressurize and vent the RCS through a 3.14 square inch vent(s) within the next 8 hours; maintain the RCS in a vented condition until both POPs have been restored to OPERABLE status.
- ~~c~~ With both POPs inoperable, depressurize and vent the RCS through a 3.14 square inch vent(s) within 8 hours; maintain the RCS in a vented condition until both POPs have been restored to OPERABLE status.
- ~~d~~ In the event either the POPs or the RCS vent(s) are used to mitigate a RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the POPs or vent(s) on the transient and any corrective action necessary to prevent recurrence.
- ~~e~~ The provisions of Specification 3.0.4 are not applicable.

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SURVEILLANCE REQUIREMENTS

4.4.9.3.1 Each POPS shall be demonstrated OPERABLE by:

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- b. With one POPs inoperable in MODES 5 or 6 with the Reactor Vessel Head installed, restore the inoperable POPs to OPERABLE status within 24 hours, or complete depressurization and venting of the RCS through at least a 3.14 square inch vent(s) within the next 8 hours; maintain the RCS in a vented condition until both POPs have been restored to OPERABLE status.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

- a. Performance of a CHANNEL FUNCTIONAL TEST on the POPS actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the POPS is required OPERABLE.
- b. Performance of a CHANNEL CALIBRATION on the POPS actuation channel at least once per 18 months.
- c. Verifying the POPS isolation valve is open at least once per 72 hours when the POPS is being used for overpressure protection.
pursuant to Specification 4.0.5.
- d. ~~Testing in accordance with the inservice test requirements for ASME Category C valves pursuant to Specification 4.0.5.~~

4.4.9.3.2 The RCS vent(s) shall be verified to be open at least once per 12 hours* when the vents(s) is being used for overpressure protection.

*Except when the vent pathway is provided with a valve which is locked, sealed, or otherwise secured in the open position, then verify these valves open at least once per 31 days.

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - T_{avg} < 350°F

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem[#] comprised of the following shall be OPERABLE:

- a. One OPERABLE centrifugal charging pump[#] and associated flow path capable of taking suction from the refueling water storage tank and transferring suction to the residual heat removal pump discharge piping and;
 1. Discharging into each Reactor Coolant System (RCS) cold leg.
- b. One OPERABLE residual heat removal pump and associated residual heat removal heat exchanger and flow path capable of taking suction from the refueling water storage tank on a safety injection signal and transferring suction to the containment sump during the recirculation phase of operation and;
 1. Discharging into each RCS cold leg, and; upon manual initiation,
 2. Discharging into two RCS hot legs.

APPLICABILITY: MODE 4.

ACTION:

- a. With no ECCS subsystem OPERABLE because of the inoperability of either the centrifugal charging pump or the flow path from the refueling water storage tank, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 hours.
- b. Within no ECCS subsystem OPERABLE because of the inoperability of either the residual heat removal heat exchanger or residual heat removal pump, restore at least one ECCS subsystem to OPERABLE status or maintain the Reactor Coolant System T_{avg} less than 350°F by use of alternate heat removal methods.
- c. ~~In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.~~

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#A maximum of one safety injection pump or one centrifugal charging pump shall be OPERABLE whenever the temperature of one or more of the RCS cold legs is less than or equal to 312°F. NOTE: This particular restriction also applies in MODE 5 and 6.

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A maximum of one safety injection pump or one centrifugal charging pump shall be OPERABLE in MODE 4 when the temperature of one or more of the RCS cold legs is less than or equal to 312°F, Mode 5, or Mode 6 when the head is on the reactor vessel.

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - $T_{avg} < 350^{\circ}F$

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per applicable Surveillance Requirements of 4.5.2.

~~4.5.3.2 All safety injection pumps, except the OPERABLE pump allowed above, shall be demonstrated inoperable at least once per 12 hours whenever the temperature of one or more of the RCS cold legs is less than or equal to $312^{\circ}F$ by the following:~~

- a. By verifying that the motor circuit breakers have been removed from their electrical power supply circuits or,
- b. For testing purposes, by verifying that the pump is in a recirculation flow path and that the manual discharge valve is closed.

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4.5.3.2 All safety injection pumps and centrifugal charging pumps, except the above required OPERABLE pump, shall be demonstrated to be inoperable at least once per 12 hours while in MODE 4 and the temperature of one or more of the RCS cold legs is less than or equal to 312°F, MODE 5, or MODE 6 when the head is on the reactor vessel by either of the following methods:

REACTIVITY CONTROL SYSTEMS

CHARGING PUMP - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.3 At least one charging pump in the boron injection flow path required by Specification 3.1.2.1 shall be OPERABLE. #

APPLICABILITY: MODES 5 and 6.

ACTION:

With no charging pump OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until one charging pump is restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

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

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4.1.2.3 In addition to the requirements of Specification 4.0.5, all safety injection pumps and centrifugal charging pumps, except the above required OPERABLE pump, shall be demonstrated to be inoperable at least once per 12 hours while in MODE 5 or MODE 6 and the head is on the reactor vessel by either of the following methods:

- a. By verifying that the motor circuit breakers have been removed from their electrical power supply circuits, or
- b. For testing purposes, by verifying that the pump is in a recirculation flow path and that the manual discharge valve is closed.

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A maximum of one safety injection pump or one centrifugal charging pump shall be OPERABLE while in MODE 5 or MODE 6 and the head is on the reactor vessel.

REACTIVITY CONTROL SYSTEMS

CHARGING PUMPS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.4 At least two charging pumps shall be OPERABLE. #

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one charging pump OPERABLE, restore at least two charging pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 1% delta k/k at 200°F within the next 6 hours; restore at least two charging pumps to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

*Insert A
from attached*

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

*Insert B
from attached*

Insert A for page 3/4 1-10

All safety injection pumps and centrifugal charging pumps, except the above required OPERABLE pump, shall be demonstrated to be inoperable at least once per 12 hours while in MODE 4 and the temperature of one or more of the RCS cold legs is less than or equal to 312°F by either of the following methods:

- a. By verifying that the motor circuit breakers have been removed from their electrical power supply circuits, or
- b. For testing purposes, by verifying that the pump is in a recirculation flow path and that the manual discharge valve is closed.

Insert B for page 3/4 1-10

A maximum of one safety injection pump or one centrifugal charging pump shall be OPERABLE in MODE 4 when the temperature of one or more of the RCS cold legs is less than or equal to 312°F.

REACTOR COOLANT SYSTEM

3/4.4.5 RELIEF VALVES

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

Replace with Insert A from attached



- a. With one or more PORV(s) inoperable, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) and remove power from the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one or more block valve(s) inoperable, within 1 hour either restore the block valve(s) to OPERABLE status or close the block valve(s) and remove power from the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

Replace with Insert B from attached



- 4.4.5.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE at least once per 18 months by performance of a CHANNEL CALIBRATION and operating the valve through one complete cycle of full travel.
- 4.4.5.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel.

Insert A for page 3/4 4-8:

- a. With one or both PORVs inoperable because of excessive seat leakage, within 6 hours either restore the PORV(s) to OPERABLE status or close the associated block valve(s) with power maintained to the 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 due to causes other than excessive seat leakage, within 6 hours either restore the PORV to OPERABLE status or close its 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 due to causes other than excessive seat leakage, within 1 hour either restore at least one PORV to OPERABLE status or close the associated block valves and remove power from the block valves and be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- d. With one block valve inoperable, within 1 hour restore the block valve to OPERABLE status or place the associated PORV in manual control; restore the block valve 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.
- e. With both block valves inoperable, within 1 hour restore the block valves to OPERABLE status or place the associated PORVs in manual control; restore at least one block valve to OPERABLE status within the next 6 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- f. The provisions of Specification 3.0.4 are not applicable.

Insert B for page 3/4 4-8:

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

- a. Operating the PORV through one complete cycle of full travel during MODES 3 or 4, and
- b. Operating solenoid valves, air control valves, and check valves on associated air accumulators in PORV control systems through one complete cycle of full travel, and
- c. Performing a CHANNEL CALIBRATION of the actuation instrumentation.

4.4.5.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed in order to meet the requirements of ACTION b, or c in Specification 3.4.5.

REACTOR COOLANT SYSTEM

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.10.3 At least one of the following overpressure protection systems shall be OPERABLE:

- a. Two Pressurizer Overpressure Protection System relief valves (POPSs) with a lift setting of less than or equal to 375 psig, or
- b. The Reactor Coolant System (RCS) depressurized with an RCS vent of greater than or equal to 3.14 square inches.

APPLICABILITY: When the temperature of one or more of the RCS cold legs is less than or equal to 312°F, except when the reactor vessel head is removed.

ACTION:

in MODE 4 and the temperature of one or more of the RCS cold legs is less than or equal to 312°F

Insert A from attached →

- a. With one POPS inoperable, restore the inoperable POPS to OPERABLE status within 7 days or depressurize and vent the RCS through a 3.14 square inch vent(s) within the next 8 hours; *maintain the RCS in a vented condition until both POPS have been restored to OPERABLE status.*
- c ~~x~~ With both POPSs inoperable, depressurize and vent the RCS through a 3.14 square inch vent(s) within 8 hours; *maintain the RCS in a vented condition until both POPS have been restored to OPERABLE status.*
- d ~~x~~ In the event either the POPSs or the RCS vent(s) are used to mitigate a RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the POPSs or vent(s) on the transient and any corrective action necessary to prevent recurrence.
- e ~~x~~ The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.4.10.3.1 Each POPS shall be demonstrated OPERABLE by:

Insert A for page 3/4 4-31

- b. With one POPs inoperable in MODES 5 or 6 with the Reactor Vessel Head installed, restore the inoperable POPs to OPERABLE status within 24 hours, or complete depressurization and venting of the RCS through at least a 3.14 square inch vent(s) within the next 8 hours; maintain the RCS in a vented condition until both POPs have been restored to OPERABLE status.

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem[#] comprised of the following shall be OPERABLE:

- a. One OPERABLE centrifugal charging pump[#] and associated flow path capable of taking suction from the refueling water storage tank and transferring suction to the residual heat removal pump discharge piping and;
 - 1. Discharging into each Reactor Coolant System (RCS) cold leg.
- b. One OPERABLE residual heat removal pump and associated residual heat removal heat exchanger and flow path capable of taking suction from the refueling water storage tank on a safety injection signal and transferring suction to the containment sump during the recirculation phase of operation and;
 - 1. Discharging into each RCS cold leg, and; upon manual initiation,
 - 2. Discharging into two RCS hot legs.

APPLICABILITY: MODE 4.

ACTION:

- a. With no ECCS subsystem OPERABLE because of the inoperability of either the centrifugal charging pump or the flow path from the refueling water storage tank, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 hours.
- b. With no ECCS subsystem OPERABLE because of the inoperability of either the residual heat removal heat exchanger or residual heat removal pump, restore at least one ECCS subsystem to OPERABLE status or maintain the Reactor Coolant System T_{avg} less than 350°F by use of alternate heat removal methods.
- c. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety-injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

*Replace with
Insert A from
attached* →

~~##A maximum of one safety injection pump or one centrifugal charging pump shall be OPERABLE whenever the temperature of one or more of the RCS cold legs is less than or equal to 312°F. NOTE: This particular restriction also applies in MODES 5 and 6.~~

Insert A for page 3/4 5-7

A maximum of one safety injection pump or one centrifugal charging pump shall be OPERABLE in MODE 4 when the temperature of one or more of the RCS cold legs is less than or equal to 312°F, Mode 5, or Mode 6 when the head is on the reactor vessel.

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - $T_{avg} < 350^{\circ}F$

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per applicable Surveillance Requirements of 4.5.2.

4.5.3.2 All safety injection pumps, except the OPERABLE pump allowed above, shall be demonstrated inoperable at least once per 12 hours whenever the temperature of one or more of the RCS cold legs is less than or equal to $312^{\circ}F$ by the following:

- a. By verifying that the motor circuit breakers have been removed from their electrical power supply circuits or,
- b. For testing purposes, by verifying that the pump is in a recirculation flow path and that the manual discharge valve is closed.

Replace with
Insert A
from attached

Insert A for page 3/4 5-8

4.5.3.2 All safety injection pumps and centrifugal charging pumps, except the above required OPERABLE pump, shall be demonstrated to be inoperable at least once per 12 hours while in MODE 4 and the temperature of one or more of the RCS cold legs is less than or equal to 312·F, MODE 5, or MODE 6 when the head is on the reactor vessel by either of the following methods: