

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.1 Safety Injection Tanks (SITs)

LCO 3.5.1 Four SITs shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,
MODE 3 with pressurizer pressure \geq 715 psia.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SIT inoperable due to boron concentration not within limits.	A.1 Restore boron concentration to within limits.	72 hours
B. One SIT inoperable for reasons other than Condition A.	B.1 Restore SIT to OPERABLE status.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.	6 hours
	<u>AND</u> C.2 Reduce pressurizer pressure to < 715 psia.	12 hours
D. Two or more SITs inoperable.	D.1 Enter LCO 3.0.3.	Immediately

BASES

ACTIONS

A.1 (continued)

during reflood concentrates the boron in the saturated liquid that remains in the core. In addition, the volume of the SIT is still available for injection. Since the boron requirements are based on the average boron concentration of the total volume of three SITs, the consequences are less severe than they would be if an SIT were not available for injection. Thus, 72 hours is allowed to return the boron concentration to within limits.

B.1

If one SIT is inoperable, for a reason other than boron concentration, the SIT must be returned to OPERABLE status within 1 hour. In this Condition, the required contents of three SITs cannot be assumed to reach the core during a LOCA. Due to the severity of the consequences should a LOCA occur in these conditions, the 1 hour Completion Time to open the valve, remove power to the valve, or restore the proper water volume or nitrogen cover pressure ensures that prompt action will be taken to return the inoperable accumulator to OPERABLE status. The Completion Time minimizes the exposure of the plant to a LOCA in these conditions.

C.1 and C.2

If the SIT cannot be restored to OPERABLE status within the associated Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and pressurizer pressure reduced to < 715 psia within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES

ACTIONS
(continued)D.1

If more than one SIT is inoperable, the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE
REQUIREMENTSSR 3.5.1.1

Verification every 12 hours that each SIT isolation valve is fully open, as indicated in the control room, ensures that SITs are available for injection and ensures timely discovery if a valve should be partially closed. If an isolation valve is not fully open, the rate of injection to the RCS would be reduced. Although a motor operated valve should not change position with power removed, a closed valve could result in not meeting accident analysis assumptions. A 12 hour Frequency is considered reasonable in view of other administrative controls that ensure the unlikelihood of a mispositioned isolation valve.

SR 3.5.1.2 and SR 3.5.1.3

SIT borated water volume and nitrogen cover pressure should be verified to be within specified limits every 12 hours in order to ensure adequate injection during a LOCA. Due to the static design of the SITs, a 12 hour Frequency usually allows the operator sufficient time to identify changes before the limits are reached. Operating experience has shown this Frequency to be appropriate for early detection and correction of off normal trends.

SR 3.5.1.4

Thirty-one days is reasonable for verification to determine that each SIT's boron concentration is within the required limits, because the static design of the SITs limits the ways in which the concentration can be changed. The 31 day Frequency is adequate to identify changes that could occur from mechanisms such as stratification or inleakage. A preferred method to sampling is permitted for verifying the boron concentration in the SIT after a greater than or equal

(continued)

BASES

SURVEILLANCE
REQUIREMENTSSR 3.5.1.4 (continued)

to 1% volume increase in the SIT not caused by deliberate filling of the SIT from the RWST. This method requires, within six hours, that the new boron concentration of the affected SIT shall be calculated using the volume change of the SIT and the results of the recent RCS boron analysis. If the result of the calculation indicates the boron concentration of the affected SIT is within the limits specified in this SR, the surveillance verification is satisfied. It is not necessary to verify boron concentration if the added water is from the RWST, because the water contained in the RWST is within the SIT boron concentration requirements. This is consistent with the recommendations of NUREG-1366 (Ref. 5).

SR 3.5.1.5

Verification every 31 days that power is removed from each SIT isolation valve operator when the pressurizer pressure is ≥ 715 psia ensures that an active failure could not result in the undetected closure of an SIT motor operated isolation valve. If this were to occur, only two SITs would be available for injection, given a single failure coincident with a LOCA. Since installation and removal of power to the SIT isolation valve operators is conducted under administrative control, the 31 day Frequency was chosen to provide additional assurance that power is removed.

This SR allows power to be supplied to the motor operated isolation valves when RCS pressure is < 715 psia, thus allowing operational flexibility by avoiding unnecessary delays to manipulate the breakers during unit startups or shutdowns. Even with power supplied to the valves, inadvertent closure is prevented by the RCS pressure interlock associated with the valves. Should closure of a valve occur in spite of the interlock, the SI signal provided to the valves would open a closed valve in the event of a LOCA.

(continued)

BASES (continued)

- REFERENCES
1. IEEE Standard 279-1971.
 2. UFSAR, Section 6.3.
 3. 10 CFR 50.46.
 4. UFSAR, Chapter 15.
 5. NUREG-1366, December 1992.
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ATTACHMENT "B"

POST PCN-299 (TECHNICAL SPECIFICATION IMPROVEMENT PROGRAM) SPECIFICATIONS
UNIT 3

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.1 Safety Injection Tanks (SITs)

LCO 3.5.1 Four SITs shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,
MODE 3 with pressurizer pressure \geq 715 psia.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SIT inoperable due to boron concentration not within limits.	A.1 Restore boron concentration to within limits.	72 hours
B. One SIT inoperable for reasons other than Condition A.	B.1 Restore SIT to OPERABLE status.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.	6 hours
	<u>AND</u> C.2 Reduce pressurizer pressure to < 715 psia.	12 hours
D. Two or more SITs inoperable.	D.i Enter LCO 3.0.3.	Immediately

BASES

ACTIONS

A.1 (continued)

during reflood concentrates the boron in the saturated liquid that remains in the core. In addition, the volume of the SIT is still available for injection. Since the boron requirements are based on the average boron concentration of the total volume of three SITs, the consequences are less severe than they would be if an SIT were not available for injection. Thus, 72 hours is allowed to return the boron concentration to within limits.

B.1

If one SIT is inoperable, for a reason other than boron concentration, the SIT must be returned to OPERABLE status within 1 hour. In this Condition, the required contents of three SITs cannot be assumed to reach the core during a LOCA. Due to the severity of the consequences should a LOCA occur in these conditions, the 1 hour Completion Time to open the valve, remove power to the valve, or restore the proper water volume or nitrogen cover pressure ensures that prompt action will be taken to return the inoperable accumulator to OPERABLE status. The Completion Time minimizes the exposure of the plant to a LOCA in these conditions.

C.1 and C.2

If the SIT cannot be restored to OPERABLE status within the associated Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and pressurizer pressure reduced to < 715 psia within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES

ACTIONS
(continued)

D.1

If more than one SIT is inoperable, the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE
REQUIREMENTS

SR 3.5.1.1

Verification every 12 hours that each SIT isolation valve is fully open, as indicated in the control room, ensures that SITs are available for injection and ensures timely discovery if a valve should be partially closed. If an isolation valve is not fully open, the rate of injection to the RCS would be reduced. Although a motor operated valve should not change position with power removed, a closed valve could result in not meeting accident analysis assumptions. A 12 hour Frequency is considered reasonable in view of other administrative controls that ensure the unlikelihood of a mispositioned isolation valve.

SR 3.5.1.2 and SR 3.5.1.3

SIT borated water volume and nitrogen cover pressure should be verified to be within specified limits every 12 hours in order to ensure adequate injection during a LOCA. Due to the static design of the SITs, a 12 hour Frequency usually allows the operator sufficient time to identify changes before the limits are reached. Operating experience has shown this Frequency to be appropriate for early detection and correction of off normal trends.

SR 3.5.1.4

Thirty-one days is reasonable for verification to determine that each SIT's boron concentration is within the required limits, because the static design of the SITs limits the ways in which the concentration can be changed. The 31 day Frequency is adequate to identify changes that could occur from mechanisms such as stratification or inleakage. A preferred method to sampling is permitted for verifying the boron concentration in the SIT after a greater than or equal

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BASES

SURVEILLANCE
REQUIREMENTSSR 3.5.1.4 (continued)

to 1% volume increase in the SIT not caused by deliberate filling of the SIT from the RWST. This method requires, within six hours, that the new boron concentration of the affected SIT shall be calculated using the volume change of the SIT and the results of the recent RCS boron analysis. If the result of the calculation indicates the boron concentration of the affected SIT is within the limits specified in this SR, the surveillance verification is satisfied. It is not necessary to verify boron concentration if the added water is from the RWST, because the water contained in the RWST is within the SIT boron concentration requirements. This is consistent with the recommendations of NUREG-1366 (Ref. 5).

SR 3.5.1.5

Verification every 31 days that power is removed from each SIT isolation valve operator when the pressurizer pressure is ≥ 715 psia ensures that an active failure could not result in the undetected closure of an SIT motor operated isolation valve. If this were to occur, only two SITs would be available for injection, given a single failure coincident with a LOCA. Since installation and removal of power to the SIT isolation valve operators is conducted under administrative control, the 31 day Frequency was chosen to provide additional assurance that power is removed.

This SR allows power to be supplied to the motor operated isolation valves when RCS pressure is < 715 psia, thus allowing operational flexibility by avoiding unnecessary delays to manipulate the breakers during unit startups or shutdowns. Even with power supplied to the valves, inadvertent closure is prevented by the RCS pressure interlock associated with the valves. Should closure of a valve occur in spite of the interlock, the SI signal provided to the valves would open a closed valve in the event of a LOCA.

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BASES (continued)

- REFERENCES
1. IEEE Standard 279-1971.
 2. UFSAR, Section 6.3.
 3. 10 CFR 50.46.
 4. UFSAR, Chapter 15.
 5. NUREG-1366, December 1992.
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ATTACHMENT "C"

PROPOSED SPECIFICATIONS
UNIT 2

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.1 Safety Injection Tanks (SITs)

LCO 3.5.1 Four SITs shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,
MODE 3 with pressurizer pressure \geq 715 psia.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SIT inoperable due to boron concentration not within limits.	A.1 Restore boron concentration to within limits.	72 hours
B. One SIT inoperable due to inability to verify level or pressure.	B.1 Restore SIT to OPERABLE status.	72 hours
B. C. One SIT inoperable for reasons other than Condition A or B.	B. C.1 Restore SIT to OPERABLE status.	1 hour 24 hours
C. D. Required Action and associated Completion Time of Condition A, B, or B C not met.	C. D.1 Be in MODE 3. AND D.2 Reduce pressurizer pressure to < 715 psia.	6 hours 12 hours
D. E. Two or more SITs inoperable.	D. E.1 Enter LCO 3.0.3.	Immediately

BASES

ACTIONS

A.1 (continued)

during reflood concentrates the boron in the saturated liquid that remains in the core. In addition, the volume of the SIT is still available for injection. Since the boron requirements are based on the average boron concentration of the total volume of three SITs, the consequences are less severe than they would be if an SIT were not available for injection. Thus, 72 hours is allowed to return the boron concentration to within limits.

B.1

~~If one SIT is inoperable, for a reason other than boron concentration, the SIT must be returned to OPERABLE status within 1 hour. In this Condition, the required contents of three SITs cannot be assumed to reach the core during a LOCA. Due to the severity of the consequences should a LOCA occur in these conditions, the 1 hour Completion Time to open the valve, remove power to the valve, or restore the proper water volume or nitrogen cover pressure ensures that prompt action will be taken to return the inoperable accumulator to OPERABLE status. The Completion Time minimizes the exposure of the plant to a LOCA in these conditions.~~

Section 7.4 of Reference 5, NUREG-1366, discusses surveillance requirements in technical specifications for the instrument channels used in the measurement of water level and pressure in SITs.

Section 7.4 of Reference 5 states in part:

"The combination of redundant level and pressure instrumentation for any single SIT may provide sufficient information so that it may not be worthwhile to always attempt to correct drift associated with one instrument [with resulting radiation exposures during entry into containment] if there were sufficient time to repair one in the event that a second one became inoperable. Because these instruments do not initiate a safety action, it is reasonable to extend the allowable outage for them. The [NRC] staff, therefore, recommends that an additional

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BASES

ACTIONS

B.1 (continued)

condition be established for the specific case, where "One accumulator [SIT] is inoperable due to the inoperability of water level and pressure channels," in which the completion time to restore the accumulator to operable status will be 72 hours. While technically inoperable, the accumulator would be available to fulfill its safety function during this time and, thus, this change would have a negligible increase in risk."

BC.1

If one SIT is inoperable, for a reason other than boron concentration or the inability to verify level or pressure, the SIT must be returned to OPERABLE status within 24 hours. In this Condition, the required contents of three SITs cannot be assumed to reach the core during a LOCA as is assumed in Appendix K to 10CFR50.

Reference 7 provides a series of deterministic and probabilistic findings that support 24 hours as being either "risk beneficial" or "risk neutral" in comparison to shorter periods for restoring the SIT to OPERABLE status. Reference 7 discusses a best-estimate analysis that confirmed that, during large-break LOCA scenarios, core melt can be prevented by either operation of one Low Pressure Safety Injection (LPSI) pump or the operation of one High Pressure Safety Injection (HPSI) pump and a single SIT. Reference 7 also discusses a plant-specific probabilistic analysis that evaluated the risk-impact of the 24 hour recovery period in comparison to shorter recovery periods.

CD.1 and CD.2

If the SIT cannot be restored to OPERABLE status within the associated Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and pressurizer pressure reduced to < 715 psia within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

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BASES

ACTIONS
(continued)DE.1

If more than one SIT is inoperable, the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE
REQUIREMENTSSR 3.5.1.1

Verification every 12 hours that each SIT isolation valve is fully open, as indicated in the control room, ensures that SITs are available for injection and ensures timely discovery if a valve should be partially closed. If an isolation valve is not fully open, the rate of injection to the RCS would be reduced. Although a motor operated valve should not change position with power removed, a closed valve could result in not meeting accident analysis assumptions. A 12 hour Frequency is considered reasonable in view of other administrative controls that ensure the unlikelihood of a mispositioned isolation valve.

SR 3.5.1.2 and SR 3.5.1.3

SIT borated water volume and nitrogen cover pressure should be verified to be within specified limits every 12 hours in order to ensure adequate injection during a LOCA. Due to the static design of the SITs, a 12 hour Frequency usually allows the operator sufficient time to identify changes before the limits are reached. Operating experience has shown this Frequency to be appropriate for early detection and correction of off normal trends.

SR 3.5.1.4

Thirty-one days is reasonable for verification to determine that each SIT's boron concentration is within the required limits, because the static design of the SITs limits the ways in which the concentration can be changed. The 31 day Frequency is adequate to identify changes that could occur from mechanisms such as stratification or inleakage. A preferred method to sampling is permitted for verifying the boron concentration in the SIT after a greater than or equal to 1% volume increase in the SIT not caused by deliberate filling of the SIT from the RWST. This method requires,

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BASES

SURVEILLANCE
REQUIREMENTSSR 3.5.1.4 (continued)

within six hours, that the new boron concentration of the affected SIT shall be calculated using the volume change of the SIT and the results of the recent RCS boron analysis. If the result of the calculation indicates the boron concentration of the affected SIT is within the limits specified in this SR, the surveillance verification is satisfied. It is not necessary to verify boron concentration if the added water is from the RWST, because the water contained in the RWST is within the SIT boron concentration requirements. This is consistent with the recommendations of NUREG-1366 (Ref. 5), Reference 6, and Reference 7.

SR 3.5.1.5

Verification every 31 days that power is removed from each SIT isolation valve operator when the pressurizer pressure is ≥ 715 psia ensures that an active failure could not result in the undetected closure of an SIT motor operated isolation valve. If this were to occur, only two SITs would be available for injection, given a single failure coincident with a LOCA. Since installation and removal of power to the SIT isolation valve operators is conducted under administrative control, the 31 day Frequency was chosen to provide additional assurance that power is removed.

This SR allows power to be supplied to the motor operated isolation valves when RCS pressure is < 715 psia, thus allowing operational flexibility by avoiding unnecessary delays to manipulate the breakers during unit startups or shutdowns. Even with power supplied to the valves, inadvertent closure is prevented by the RCS pressure interlock associated with the valves. Should closure of a valve occur in spite of the interlock, the SI signal provided to the valves would open a closed valve in the event of a LOCA.

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BASES (continued)

REFERENCES

1. IEEE Standard 279-1971.
 2. UFSAR, Section 6.3.
 3. 10 CFR 50.46.
 4. UFSAR, Chapter 15.
 5. NUREG-1366, December 1992.
 6. NRC Generic Letter 93-05, "Line-Item Technical Specification Improvements to Reduce Surveillance Requirements for Testing During Power Operations," September 27, 1993.
 7. CE NPSD-994, "CEOG Joint Application Report for Safety Injection Tank AOT/STI Extension," May 1995.
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ATTACHMENT "D"

PROPOSED SPECIFICATIONS
UNIT 3

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.1 Safety Injection Tanks (SITs)

LCO 3.5.1 Four SITs shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,
MODE 3 with pressurizer pressure \geq 715 psia.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SIT inoperable due to boron concentration not within limits.	A.1 Restore boron concentration to within limits.	72 hours
B. One SIT inoperable due to inability to verify level or pressure.	B.1 Restore SIT to OPERABLE status.	72 hours
B. C. One SIT inoperable for reasons other than Condition A or B.	B. C.1 Restore SIT to OPERABLE status.	1 hour 24 hours
C. D. Required Action and associated Completion Time of Condition A, B, or B C not met.	C. D.1 Be in MODE 3. <u>AND</u> D.2 Reduce pressurizer pressure to < 715 psia.	6 hours 12 hours
D. E. Two or more SITs inoperable.	D. E.1 Enter LCO 3.0.3.	Immediately

BASES

ACTIONS

A.1 (continued)

during reflood concentrates the boron in the saturated liquid that remains in the core. In addition, the volume of the SIT is still available for injection. Since the boron requirements are based on the average boron concentration of the total volume of three SITs, the consequences are less severe than they would be if an SIT were not available for injection. Thus, 72 hours is allowed to return the boron concentration to within limits.

B.1

~~If one SIT is inoperable, for a reason other than boron concentration, the SIT must be returned to OPERABLE status within 1 hour. In this Condition, the required contents of three SITs cannot be assumed to reach the core during a LOCA. Due to the severity of the consequences should a LOCA occur in these conditions, the 1 hour Completion Time to open the valve, remove power to the valve, or restore the proper water volume or nitrogen cover pressure ensures that prompt action will be taken to return the inoperable accumulator to OPERABLE status. The Completion Time minimizes the exposure of the plant to a LOCA in these conditions.~~

Section 7.4 of Reference 5, NUREG-1366, discusses surveillance requirements in technical specifications for the instrument channels used in the measurement of water level and pressure in SITs.

Section 7.4 of Reference 5 states in part:

"The combination of redundant level and pressure instrumentation for any single SIT may provide sufficient information so that it may not be worthwhile to always attempt to correct drift associated with one instrument [with resulting radiation exposures during entry into containment] if there were sufficient time to repair one in the event that a second one became inoperable. Because these instruments do not initiate a safety action, it is reasonable to extend the allowable outage for them. The [NRC] staff, therefore, recommends that an additional

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BASES

ACTIONS

B.1 (continued)

condition be established for the specific case, where "One accumulator [SIT] is inoperable due to the inoperability of water level and pressure channels," in which the completion time to restore the accumulator to operable status will be 72 hours. While technically inoperable, the accumulator would be available to fulfill its safety function during this time and, thus, this change would have a negligible increase in risk."

BC.1

If one SIT is inoperable, for a reason other than boron concentration or the inability to verify level or pressure, the SIT must be returned to OPERABLE status within 24 hours. In this Condition, the required contents of three SITs cannot be assumed to reach the core during a LOCA as is assumed in Appendix K to 10CFR50.

Reference 7 provides a series of deterministic and probabilistic findings that support 24 hours as being either "risk beneficial" or "risk neutral" in comparison to shorter periods for restoring the SIT to OPERABLE status. Reference 7 discusses a best-estimate analysis that confirmed that, during large-break LOCA scenarios, core melt can be prevented by either operation of one Low Pressure Safety Injection (LPSI) pump or the operation of one High Pressure Safety Injection (HPSI) pump and a single SIT. Reference 7 also discusses a plant-specific probabilistic analysis that evaluated the risk-impact of the 24 hour recovery period in comparison to shorter recovery periods.

GD.1 and GD.2

If the SIT cannot be restored to OPERABLE status within the associated Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and pressurizer pressure reduced to < 715 psia within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

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BASES

ACTIONS
(continued)DE.1

If more than one SIT is inoperable, the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE
REQUIREMENTSSR 3.5.1.1

Verification every 12 hours that each SIT isolation valve is fully open, as indicated in the control room, ensures that SITs are available for injection and ensures timely discovery if a valve should be partially closed. If an isolation valve is not fully open, the rate of injection to the RCS would be reduced. Although a motor operated valve should not change position with power removed, a closed valve could result in not meeting accident analysis assumptions. A 12 hour Frequency is considered reasonable in view of other administrative controls that ensure the unlikelihood of a mispositioned isolation valve.

SR 3.5.1.2 and SR 3.5.1.3

SIT borated water volume and nitrogen cover pressure should be verified to be within specified limits every 12 hours in order to ensure adequate injection during a LOCA. Due to the static design of the SITs, a 12 hour Frequency usually allows the operator sufficient time to identify changes before the limits are reached. Operating experience has shown this Frequency to be appropriate for early detection and correction of off normal trends.

SR 3.5.1.4

Thirty-one days is reasonable for verification to determine that each SIT's boron concentration is within the required limits, because the static design of the SITs limits the ways in which the concentration can be changed. The 31 day Frequency is adequate to identify changes that could occur from mechanisms such as stratification or inleakage. A preferred method to sampling is permitted for verifying the boron concentration in the SIT after a greater than or equal to 1% volume increase in the SIT not caused by deliberate filling of the SIT from the RWST. This method requires,

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BASES

SURVEILLANCE
REQUIREMENTSSR 3.5.1.4 (continued)

within six hours, that the new boron concentration of the affected SIT shall be calculated using the volume change of the SIT and the results of the recent RCS boron analysis. If the result of the calculation indicates the boron concentration of the affected SIT is within the limits specified in this SR, the surveillance verification is satisfied. It is not necessary to verify boron concentration if the added water is from the RWST, because the water contained in the RWST is within the SIT boron concentration requirements. This is consistent with the recommendations of NUREG-1366 (Ref. 5), Reference 6, and Reference 7.

SR 3.5.1.5

Verification every 31 days that power is removed from each SIT isolation valve operator when the pressurizer pressure is ≥ 715 psia ensures that an active failure could not result in the undetected closure of an SIT motor operated isolation valve. If this were to occur, only two SITs would be available for injection, given a single failure coincident with a LOCA. Since installation and removal of power to the SIT isolation valve operators is conducted under administrative control, the 31 day Frequency was chosen to provide additional assurance that power is removed.

This SR allows power to be supplied to the motor operated isolation valves when RCS pressure is < 715 psia, thus allowing operational flexibility by avoiding unnecessary delays to manipulate the breakers during unit startups or shutdowns. Even with power supplied to the valves, inadvertent closure is prevented by the RCS pressure interlock associated with the valves. Should closure of a valve occur in spite of the interlock, the SI signal provided to the valves would open a closed valve in the event of a LOCA.

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BASES (continued)

- REFERENCES
1. IEEE Standard 279-1971.
 2. UFSAR, Section 6.3.
 3. 10 CFR 50.46.
 4. UFSAR, Chapter 15.
 5. NUREG-1366, December 1992.
 6. NRC Generic Letter 93-05, "Line-Item Technical Specification Improvements to Reduce Surveillance Requirements for Testing During Power Operations," September 27, 1993.
 7. CE NPSD-994, "CEOG Joint Application Report for Safety Injection Tank AOT/STI Extension," May 1995.
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