ENCLOSURE

PROPOSED AMENDMENT TO TECHNICAL SPECIFICATION

SECTIONS 3/4.0, 3/4.1.3, 3/4.3.3, 3/4.4.5, 3/4.5.2, 3/4.6.2, 3/4.7.1, and 3/4.10.1

A. DESCRIPTION OF THE PROPOSED AMENDMENT REQUEST

The proposed amendment makes the following specific changes to the Palo Verde Nuclear Generating Station (PVNGS) Units 1, 2, and 3 Technical Specifications (TS). The changes are listed by the Generic Letter 93-05 item numbers:

4.2.1 Changes the frequency for control element assembly (CEA) movement in Surveillance Requirement (SR) 4.1.3.1.2 from "31" days to "92" days (see TS page 3/4 1-16).

5.8 Changes the frequency for the incore detector channel check in SR 4.3.3.2.a from "24 hours prior to its use if the system has just been returned to OPERABLE status or if 7 days or more have elapsed since last use and at least once per 7 days thereafter when required" to "7 days prior to its use" (see TS page 3/4 3-41).

5.14 Changes the radiation monitor channel functional test frequency in Table 4.3-3, "Radiation Monitoring Instrumentation Surveillance Requirements," from monthly to quarterly ("M" to "Q") for Instruments 1.A, 1.B, 1.D, 1.E, 2.A, and 2.B (see TS page 3/4 3-40).

6.1 Changes the amount of time in SR 4.4.5.2.2.b that the plant can be in Cold Shutdown without leak testing the reactor coolant system (RCS) isolation valves from "72 hours" to "7 days" (see TS page 3/4 4-20).

7.5 Changes the frequency of the containment visual inspection in SR 4.5.2.c.2 from "For all the affected areas within containment at the completion of containment entry" to "At least once daily of the affected areas within containment by containment entry and during the final entry" (see TS page 3/4 5-4).

8.1 Changes the frequency of the containment spray system air or smoke flow test in SR 4.6.2.1.e from "5" years to "10" years (see TS page 3/4 6-16).

9.1 Changes the frequency of auxiliary feedwater (AFW) pump testing in SR 4.7.1.2.a from "31" days to "92" days. The following administrative changes were also made to rearrange and renumber SR 4.7.1.2: 1) add "a. At least once per 31 days:" and renumber SR 4.7.1.2 "a.2" and "a.3" as "a.1" and "a.2" respectively, 2) Relabel and move SR 4.7.1.2. "a." to "b." (4.7.2.a.1 becomes 4.7.2.1.b.1), and 3) relabel SR 4.7.1.2 "b., c., d." as "c., d., e." respectively (see TS pages 3/4 7-4 and 3/4 7-5).

12 Changes the time interval for performing a CEA insertion test prior to reducing shutdown margin in SR 4.10.1.2 from "24 hours" to "7 days" (see TS page 3/4 10-1).

14 Added SR 4.0.5 "c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities" (see TS page 3/4 0-2).

B. PURPOSE OF THE TECHNICAL SPECIFICATION

The purpose of the TS discussed above, is to periodically verify that systems, structures, and components are available to perform their safety function.

C. NEED FOR THE TECHNICAL SPECIFICATION AMENDMENT

The NRC staff has determined that safety can be improved by reducing the amount of testing at power. The NRC staff also determined that the recommended changes to the SR discussed in Generic Letter 93-05 would reduce the frequency of plant trips and subsequent challenges to safety systems, decrease equipment degradation, reduce radiation exposure to plant personnel (which is not justified by the safety significance of the surveillance), and eliminate an unnecessary burden on plant personnel (time required for testing is not justified by the safety significance of the testing).

D. SAFETY ANALYSIS OF THE PROPOSED TECHNICAL SPECIFICATION AMENDMENT

The changes to the PVNGS TS are based on the recommendations of Generic Letter 93-05 and NUREG-1366. The changes to the surveillance intervals are compatible with plant operating experience. These changes will result in an overall improvement in plant safety by reducing the frequency of plant trips and subsequent challenges to safety systems, decreasing equipment degradation due to excessive testing, reducing radiation exposure to plant personnel (which is not justified by the safety significance of the surveillance), and eliminating an unnecessary burden on plant personnel (time required for testing is not justified by the safety significance of the testing).

The following is a discussion of the improvements in plant safety resulting from each of the changes:

4.2.1 The purpose of CEA movement testing is to detect CEAs that cannot move. Most stuck CEAs are discovered during plant startup during initial CEA movement or during rod drop testing. Therefore, this change to the surveillance interval will not affect the ability to detect CEAs that cannot move. CEA movement tests may also cause reactor trips, dropped rods, and unnecessary

challenges to safety systems. The change to the surveillance interval will reduce the likelihood of these occurrences. PVNGS operating experience shows that this change to the surveillance interval in SR 4.1.3.1.2 for CEA movement testing will not affect the operability of the CEAs.

5.8 The incore detectors provide input to the core operating limit supervisory system (COLSS). COLSS is a continuous on-line monitoring system. The incore detectors are a passive system and a detector failure cannot result in core damage. The detector must fail with some other initiating event to result in core damage. A detector failure normally causes COLSS calculations to become more conservative. COLSS checks the incore detector signals for validity and monitors compliance with the TS limits on failed detectors. The incore detector signals are also checked monthly as part of the core parameters surveillance. Therefore, this change to the surveillance requirements in SR 4.3.3.2.a does not change any operability requirements for incore detectors nor will it reduce the likelihood of a failed incore detector from being identified.

5.14 The radiation monitors in this TS are process and area monitors. Most failures of radiation monitors are found during channel checks and source checks, and from alarms. These checks of radiation monitor operability and PVNGS operating experience will ensure that these changes to the surveillance intervals in Table 4.3-3 for the channel functional test will not affect the operability of the radiation monitors.

6.1 This change increases the time the plant can remain in cold shutdown without requiring isolation valve leak testing. Leak testing will still be required for isolation valves that have had maintenance performed on them, were actuated manually or automatically, or had flow through them. Leak testing will also still be required following a system response to an engineered safety feature actuation signal. Therefore, since leak testing is still required for the situations described above, the change to SR 4.4.5.2.2.b will only effect isolation valves that have not been moved or had maintenance performed and therefore does not effect the operability of the isolation system.

7.5 This change applies to work activities which result in more than one containment entry per day. The change allows one inspection per day if it is performed during the final containment entry of the day. The change to SR 4.5.2.c.2 will reduce radiation exposure to personnel performing the inspections while still requiring at least one inspection per day.

8.1 The testing verifies that there is flow, but provides no actual flow data. Industry experience shows that testing problems are construction related. Operational experience at PVNGS has not found any problems that would result in spray nozzle blockage. Therefore, the change to SR 4.6.2.1.e does not affect the

operability of the containment spray system. PVNGS also uses stainless steel piping for the containment spray system, which is not susceptible to the type of failure discussed in Generic Letter 93-05.

9.1 The ASME Code requires quarterly testing of Class 2 pumps (such as AFW pumps). AFW pumps are the only pumps required by TS to be tested more frequently than required by the ASME Code. Monthly AFW pump testing may contribute to AFW pump unavailability and failures. Changing the testing frequency of the AFW pumps to quarterly on a staggered test basis will decrease the time that each pump is tested, while providing monthly system testing for identification of common mode failures. Therefore, quarterly testing on a staggered test basis should increase AFW pump availability and reliability without decreasing the opportunity to identify generic problems with the pumps. PVNGS operating experience shows that the changes to the surveillance intervals in SR 4.7.1.2 will not affect the operability of the AFW system.

12 The existing SR could result in two rod drop tests being performed. The second test does not provide significant assurance that the probability of a stuck CEA is reduced. There would be no changes to core geometry between the tests since the vessel head and all vessel internals would be in their final position and secured. Therefore, the change to SR 4.10.1.2 will not affect the operability of the CEAs.

14 This change gives more flexibility in scheduling inservice inspection and testing activities in accordance the ASME Code. The change makes the surveillance intervals for SR 4.0.5 consistent with the rest of the TS.

E. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves a no significant hazards consideration if operation of the facility, in accordance with a proposed amendment, would not: (1) Involve a significant increase in the probability or consequences of an accident previously evaluated or; (2) create the possibility of a new or different kind of accident from any accident previously evaluated or; (3) involve a significant reduction in a margin of safety. A discussion of these standards, as they relate to this amendment request, follows:

Standard 1 -- Involve a significant increase in the probability or consequences of an accident previously evaluated.

This amendment request does not involve a significant increase in the probability or consequences of an accident previously evaluated based on the safety analysis, because the proposed changes to the TS do not affect the assumptions, design parameters, or results of any UFSAR accident analysis. The proposed amendment does not add or modify any existing equipment. The changes to the surveillance requirements will result in an overall improvement in plant safety by reducing the frequency of plant trips and subsequent challenges to safety systems, decreasing equipment degradation due to excessive testing, reducing radiation exposure to plant personnel (which is not justified by the safety significance of the surveillance), and eliminating an unnecessary burden on plant personnel (time required for testing is not justified by the safety significance of the testing). Therefore, the proposed TS changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

Standard 2 -- Create the possibility of a new or different kind of accident from any accident previously analyzed.

This amendment request does not create the possibility of a new or different kind of accident from any accident previously analyzed since the proposed TS changes do not involve modifications to any of the existing equipment or affect the operation or design basis of the equipment. The proposed changes do not modify the equipment response. The proposed changes increase the surveillance intervals for a small fraction of the SR, while ensuring that overall plant safety is improved. Therefore, the proposed TS changes would not create the possibility of a new or different kind of accident from any previously evaluated.

Standard 3 -- Involve a significant reduction in a margin of safety.

The margin of safety presently provided is not reduced by the proposed changes in surveillance intervals in this TS amendment. The operability requirements of the affected systems, structures, and components are not changed by this TS amendment. Although the proposed changes increase the surveillance intervals for the affected TS, the reliability and operability of systems, components, and structures continues to be ensured by periodic testing. Since equipment reliability and operability will be maintained, the proposed TS changes will not involve a significant reduction in margin of safety.

F. ENVIRONMENTAL IMPACT CONSIDERATION DETERMINATION

APS has determined that the proposed amendment involves no change in the amount or type of effluent that may be released offsite, and that there is no increase in individual or cumulative occupational radiation exposure (radiation exposure to plant personnel should be reduced). As such, operation of PVNGS Units 1, 2, and 3, in accordance with the proposed amendments, does not involve an unreviewed environmental safety question.

G. MARKED-UP TECHNICAL SPECIFICATION PAGES

Units 1, 2, and 3; pages 3/4 0-2, 3/4 1-16, 3/4 3-40, 3/4 3-41, 3/4 4-20, 3/4 5-4, 3/4 6-16, 3/4 7-4, 3/4 7-5, and 3/4 10-1

APPLICABILITY

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be applicable during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval.

4.0.3 Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours. Surveillance Requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an OPERATIONAL MODE or other specified condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the stated surveillance interval or as otherwise specified. This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:

a. Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.2 is determined at least once per 12 hours.

Otherwise, be in at least HOT STANDBY within 6 hours.

d. With one full-length CEA inoperable due to causes other than addressed by ACTION a., above, but within its above specified alignment requirements, operation in MODES 1 and 2 may continue pursuant to the requirements of Specification 3.1.3.6.

e. With one part-length CEA inoperable and inserted in the core, operation may continue provided the alignment of the inoperable part length CEA is maintained within 6.6 inches (indicated position) of all other part-length CEAs in its group and the CEA is maintained pursuant to the requirements of Specification 3.1.3.7.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position of each full-length and part-length CEA shall be determined to be within 6.6 inches (indicated position) of all other CEAs in its group at least once per 12 hours except during time intervals when one CEAC is inoperable or when both CEACs are inoperable, then verify the individual CEA positions at least once per 4 hours.

4.1.3.1.2 Each full-length CEA not fully inserted and each part-length CEA which is inserted in the core shall be determined to be OPERABLE by movement of at least 5 inches in any one direction at least once per ~~31~~ 92 days.*

*With the exception that CEA #64 is exempt from this surveillance requirement for the remainder of Cycle 2 operations (i.e., until restart from the second refueling outage).

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. Area Monitors				
A. Fuel Pool Area RU-31	S	R	Q	**
B. New Fuel Area RU-19	S	R	Q	*
C. Containment Power Access Purge Exhaust RU-37 & RU-38	P#	R	P###,W###	##
D. Containment RU-148 & RU-149	S	R	Q	1,2,3,4
E. Main Steam RU-139 A&B RU-140 A&B	S	R	Q	1,2,3,4
2. Process Monitors				
A. Containment Building Atmosphere RU-1				
1) Particulate	S	R	Q	1,2,3,4
2) Gaseous	S	R	Q	1,2,3,4
B. Control Room Ventilation Intake RU-29 & RU-30	S	R	Q	All MODES
3. Post Accident Sampling System	N.A.	R	M***	1,2,3

*With fuel in the storage pool or building.
**With irradiated fuel in the storage pool.
***The functional test should consist of, but not be limited to, a verification of system sampling capabilities.
#If purge is in service for greater than 12 hours, perform once per 12-hour period.
##When purge system is in operation.
###The functional test should consist of, but not be limited to, a verification of system isolation capability by the insertion of a simulated alarm condition.

Corrected 10/21/87

INSTRUMENTATION

INCORE DETECTORS

LIMITING CONDITION FOR OPERATION

3.3.3.2 The incore detection system shall be OPERABLE with:

a. At least 75% of all incore detector locations, and 75% of all detectors, with at least one detector in each quadrant at each level; and

b. A minimum of six tilt estimates, with at least one at each of three levels.

An OPERABLE incore detector location shall consist of a fuel assembly containing a fixed detector string with a minimum of three OPERABLE rhodium detectors or an OPERABLE movable incore detector capable of mapping the location.

APPLICABILITY: When the incore detection system is used for monitoring:

a. AZIMUTHAL POWER TILT,

b. Radial Peaking Factors,

c. Local Power Density,

d. DNB Margin.

ACTION:

a. With the incore detection system inoperable, do not use the system for the above applicable monitoring or calibration functions.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.2 The incore detection system shall be demonstrated OPERABLE:

a. By performance of a CHANNEL CHECK within ~~24 hours~~ 7 days prior to its use ~~if the system has just been returned to OPERABLE status or if 7 days or more have elasped since last use and at least once per 7 days thereafter when required~~ for monitoring the AZIMUTHAL POWER TILT, radial peaking factors, local power density or DNB margin:

b. At least once per 18 months by performance of a CHANNEL CALIBRATION operation which exempts the neutron detectors but includes all electronic components. The fixed incore neutron detectors shall be calibrated prior to installation in the reactor core.

SURVEILLANCE REQUIREMENTS (Continued)

b. Monitoring the containment sump inventory and discharge at least once per 12 hours.

c. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours**.

d. Monitoring the reactor head flange leakoff system at least once per 24 hours.

4.4.5.2.2 Each Reactor Coolant System pressure isolation valve specified in Table 3.4-1 shall be demonstrated OPERABLE by verifying leakage to be within its limit**:

a. At least once per 18 months, 7 days

b.* Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for ~~72 hours~~ or more and if leakage testing has not been performed in the previous 9 months,

c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve,

d.* Within 24 hours following valve actuation due to automatic or manual action or flow through the valve,

e.* Within 72 hours following a system response to an Engineered Safety Feature actuation signal.

*The provisions of Specifications 4.4.5.2.2.b, 4.4.5.2.2.d, and 4.4.5.2.2.e are not applicable for valves UV 651, UV 652, UV 653 and UV 654 due to position indication of valves in the control room.

**The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

EMERGENCY CORE COOLING SYSTEMS

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 the valves key-locked shut:

Valve Number	Valve Function	Valve Position
1. SIA HV-604	1. HOT LEG INJECTION	1. SHUT
2. SIC HV-321	2. HOT LEG INJECTION	2. SHUT
3. SIB HV-609	3. HOT LEG INJECTION	3. SHUT
4. SID HV-331	4. HOT LEG INJECTION	4. SHUT

b. At least once per 31 days by:

1. Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position, and

2. Verifying that the ECCS piping is full of water by venting the accessible discharge piping high points.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and

2. ~~For all~~ At least once daily of the affected areas within containment ~~at the completion of containment~~ entry when CONTAINMENT INTEGRITY is established by containment entry and during the final

d. At least once per 18 months by:

SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying that each spray pump starts automatically on a safety injection actuation (SIAS) and on a containment spray actuation (CSAS) test signal.

e. At least once per ~~5~~ 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

a. Two feedwater pumps, each capable of being powered from separate OPERABLE emergency busses, and

b. One feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2, 3, and 4*.

ACTION:

a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps 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.

b. With two auxiliary feedwater pumps inoperable be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

c. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

b. ~~a.~~ At least once per ~~31~~ 92 days on a STAGGERED TEST BASIS by:

1. Testing the turbine-driven pump and both motor-driven pumps pursuant to Specification 4.0.5. The provisions of Specification 4.0.4 are not applicable for the turbine-driven pump for entry into MODE 3.

a. At least once per 31 days:

1. ~~2.~~ Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

2. ~~3.~~ Verifying that all manual valves in the suction lines from the primary AFW supply tank (condensate storage tank CTE-T01) to each essential AFW pump, and the manual discharge line valve of each AFW pump are locked, sealed or otherwise secured in the open position.

*Until the steam generators are no longer required for heat removal.

SURVEILLANCE REQUIREMENTS (Continued)

c. ~~b.~~ At least once per 18 months during shutdown by:

1. Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of an auxiliary feedwater actuation test signal.

2. Verifying that each pump that starts automatically upon receipt of an auxiliary feedwater actuation test signal will start automatically upon receipt of an auxiliary feedwater actuation test signal.

d. ~~c.~~ Prior to startup following any refueling shutdown or cold shutdown of 30 days or longer, by verifying on a STAGGERED TEST BASIS (by means of a flow test) that the normal flow path from the condensate storage tank to each of the steam generators through one of the essential auxiliary feedwater pumps delivers at least 750 gpm at 1270 psia or equivalent.

e. ~~d.~~ The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or MODE 4 for the turbine-driven pump.

3/4.10 SPECIAL TEST EXCEPTIONS

3/4.10.1 SHUTDOWN MARGIN AND K_{N-1} - CEA WORTH TESTS

LIMITING CONDITION FOR OPERATION

3.10.1 The SHUTDOWN MARGIN and K_{N-1} requirements of Specification 3.1.1.2 may be suspended for measurement of CEA worth and shutdown margin provided reactivity equivalent to at least the highest estimated CEA worth is available for trip insertion from OPERABLE CEA(s), or the reactor is subcritical by at least the reactivity equivalent of the highest CEA worth.

APPLICABILITY: MODES 2, 3* and 4*.

ACTION:

a. With any full-length CEA not fully inserted and with less than the above reactivity equivalent available for trip insertion, immediately initiate and continue boration at greater than or equal to 26 gpm of a solution containing greater than or equal to 4000 ppm boron or its equivalent until the SHUTDOWN MARGIN and K_{N-1} required by Specification 3.1.1.2 is restored.

b. With all full-length CEAs fully inserted and the reactor subcritical by less than the above reactivity equivalent, immediately initiate and continue boration at greater than or equal to 26 gpm of a solution containing greater than or equal to 4000 ppm boron or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

SURVEILLANCE REQUIREMENTS

4.10.1.1 The position of each full-length and part-length CEA required either partially or fully withdrawn shall be determined at least once per 2 hours.

4.10.1.2 Each CEA not fully inserted shall be demonstrated capable of full insertion when tripped from at least the 50% withdrawn position within 7 days ~~24 hours~~ prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.2.

4.10.1.3 When in MODE 3 or MODE 4, the reactor shall be determined to be subcritical by at least the reactivity equivalent of the highest estimated CEA worth or the reactivity equivalent of the highest estimated CEA worth is available for trip insertion from OPERABLE CEAs at least once per 2 hours by consideration of at least the following factors:

a. Reactor Coolant System boron concentration,

b. CEA position,

c. Reactor Coolant System average temperature,

d. Fuel burnup based on gross thermal energy generation,

e. Xenon concentration, and

f. Samarium concentration.

*Operation in MODE 3 and MODE 4 shall be limited to 6 consecutive hours.

APPLICABILITY

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be applicable during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval.

4.0.3 Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute non-compliance with the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours. Surveillance Requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an OPERATIONAL MODE or other specified condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the stated surveillance interval or as otherwise specified. This provision shall not prevent passage through or to operational MODES as required to comply wity ACTION requirements.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:

a. Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.2 is determined at least once per 12 hours.

Otherwise, be in at least HOT STANDBY within 6 hours.

d. With one full-length CEA inoperable due to causes other than addressed by ACTION a., above, but within its above specified alignment requirements, operation in MODES 1 and 2 may continue pursuant to the requirements of Specification 3.1.3.6.

e. With one part-length CEA inoperable and inserted in the core, operation may continue provided the alignment of the inoperable part length CEA is maintained within 6.6 inches (indicated position) of all other part-length CEAs in its group and the CEA is maintained pursuant to the requirements of Specification 3.1.3.7.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position of each full-length and part-length CEA shall be determined to be within 6.6 inches (indicated position) of all other CEAs in its group at least once per 12 hours except during time intervals when one CEAC is inoperable or when both CEACs are inoperable, then verify the individual CEA positions at least once per 4 hours.

4.1.3.1.2 Each full-length CEA not fully inserted and each part-length CEA which is inserted in the core shall be determined to be OPERABLE by movement of at least 5 inches in any one direction at least once per ~~31~~ 92 days.*

*With the exception that CEAs 27 and 41 are exempt from this surveillance requirement until restart from the second refueling outage.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. Area Monitors				
A. Fuel Pool Area RU-31	S	R	Q	**
B. New Fuel Area RU-19	S	R	Q	*
C. Containment Power Access Purge Exhaust RU-37 & RU-38	P#	R	P###,W###	##
D. Containment RU-148 & RU-149	S	R	Q	1,2,3,4
E. Main Steam RU-139 A&B RU-140 A&B	S	R	Q	1,2,3,4
2. Process Monitors				
A. Containment Building Atmosphere RU-1				
1) Particulate	S	R	Q	1,2,3,4
2) Gaseous	S	R	Q	1,2,3,4
B. Control Room Ventilation Intake RU-29 & RU-30	S	R	Q	All MODES
3. Post Accident Sampling System	N.A.	R	M***	1,2,3

*With fuel in the storage pool or building.
**With irradiated fuel in the storage pool.
***The functional test should consist of, but not be limited to, a verification of system sampling capabilities.
#If purge is in service for greater than 12 hours, perform once per 12-hour period.
##When purge system is in operation.
###The functional test should consist of, but not be limited to, a verification of system isolation capability by the insertion of a simulated alarm condition.

INSTRUMENTATION

INCORE DETECTORS

LIMITING CONDITION FOR OPERATION

3.3.3.2 The incore detection system shall be OPERABLE with:

a. At least 75% of all incore detector locations, and 75% of all detectors, with at least one detector in each quadrant at each level; and

b. A minimum of six tilt estimates, with at least one at each of three levels.

An OPERABLE incore detector location shall consist of a fuel assembly containing a fixed detector string with a minimum of three OPERABLE rhodium detectors or an OPERABLE movable incore detector capable of mapping the location.

APPLICABILITY: When the incore detection system is used for monitoring:

a. AZIMUTHAL POWER TILT,

b. Radial Peaking Factors,

c. Local Power Density,

d. DNB Margin.

ACTION:

a. With the incore detection system inoperable, do not use the system for the above applicable monitoring or calibration functions.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.2 The incore detection system shall be demonstrated OPERABLE:

a. By performance of a CHANNEL CHECK within 7 days ~~24 hours~~ prior to its use ~~if the system has just been returned to OPERABLE status or if 7 days or more have elasped since last use and at least once per 7 days thereafter when required~~ for monitoring the AZIMUTHAL POWER TILT, radial peaking factors, local power density or DNB margin:

b. At least once per 18 months by performance of a CHANNEL CALIBRATION operation which exempts the neutron detectors but includes all electronic components. The fixed incore neutron detectors shall be calibrated prior to installation in the reactor core.

SURVEILLANCE REQUIREMENTS (Continued)

c. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours**.

d. Monitoring the reactor head flange leakoff system at least once per 24 hours.

4.4.5.2.2 Each Reactor Coolant System pressure isolation valve specified in Table 3.4-1 shall be demonstrated OPERABLE by verifying leakage to be within its limit**:

a. At least once per 18 months, 7 days

b.* Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for ~~72 hours~~ or more and if leakage testing has not been performed in the previous 9 months,

c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve,

d.* Within 24 hours following valve actuation due to automatic or manual action or flow through the valve,

e.* Within 72 hours following a system response to an Engineered Safety Feature actuation signal.

*The provisions of Specifications 4.4.5.2.2.b, 4.4.5.2.2.d, and 4.4.5.2.2.e are not applicable for valves UV 651, UV 652, UV 653 and UV 654 due to position indication of valves in the control room.
**The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

EMERGENCY CORE COOLING SYSTEMS

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 the valves key-locked shut:

Valve Number	Valve Function	Valve Position
1. SIA HV-604	1. HOT LEG INJECTION	1. SHUT
2. SIC HV-321	2. HOT LEG INJECTION	2. SHUT
3. SIB HV-609	3. HOT LEG INJECTION	3. SHUT
4. SID HV-331	4. HOT LEG INJECTION	4. SHUT

b. At least once per 31 days by:

1. Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position, and

2. Verifying that the ECCS piping is full of water by venting the accessible discharge piping high points.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and

At least once daily of

2. ~~For all~~ the affected areas within containment ~~at the completion of containment~~ entry when CONTAINMENT INTEGRITY is established.

by containment entry and during the final

d. At least once per 18 months by:

SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying that each spray pump starts automatically on a safety injection actuation (SIA) and on a containment spray actuation (CSA) test signal.

e. At least once per ~~5~~ 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

a. Two feedwater pumps, each capable of being powered from separate OPERABLE emergency busses, and

b. One feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2, 3, and 4*.

ACTION:

a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps 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.

b. With two auxiliary feedwater pumps inoperable be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

c. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

b. ~~a.~~ At least once per ~~31~~ 92 days on a STAGGERED TEST BASIS by:

1. Testing the turbine-driven pump and both motor-driven pumps pursuant to Specification 4.0.5. The provisions of Specification 4.0.4 are not applicable for the turbine-driven pump for entry into MODE 3.

a. At least once per 31 days:

~~1.~~ 2. Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

2. ~~2.~~ Verifying that all manual valves in the suction lines from the primary AFW supply tank (condensate storage tank CTE-T01) to each essential AFW pump, and the manual discharge line valve of each AFW pump are locked, sealed or otherwise secured in the open position.

*Until the steam generators are no longer required for heat removal.

SURVEILLANCE REQUIREMENTS (Continued)

c. f. At least once per 18 months during shutdown by:

1. Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of an auxiliary feedwater actuation test signal.

2. Verifying that each pump that starts automatically upon receipt of an auxiliary feedwater actuation test signal will start automatically upon receipt of an auxiliary feedwater actuation test signal.

d. g. Prior to startup following any refueling shutdown or cold shutdown of 30 days or longer, by verifying on a STAGGERED TEST BASIS (by means of a flow test) that the normal flow path from the condensate storage tank to each of the steam generators through one of the essential auxiliary feedwater pumps delivers at least 750 gpm at 1270 psia or equivalent.

e. h. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or MODE 4 for the turbine-driven pump.

3/4.10 SPECIAL TEST EXCEPTIONS

3/4.10.1 SHUTDOWN MARGIN AND K_{N-1} - CEA WORTH TESTS

LIMITING CONDITION FOR OPERATION

3.10.1 The SHUTDOWN MARGIN and K_{N-1} requirements of Specification 3.1.1.2 may be suspended for measurement of CEA worth and shutdown margin provided reactivity equivalent to at least the highest estimated CEA worth is available for trip insertion from OPERABLE CEA(s), or the reactor is subcritical by at least the reactivity equivalent of the highest CEA worth.

APPLICABILITY: MODES 2, 3* and 4*.

ACTION:

a. With any full-length CEA not fully inserted and with less than the above reactivity equivalent available for trip insertion, immediately initiate and continue boration at greater than or equal to 26 gpm of a solution containing greater than or equal to 4000 ppm boron or its equivalent until the SHUTDOWN MARGIN and K_{N-1} required by Specification 3.1.1.2 are restored.

b. With all full-length CEAs fully inserted and the reactor subcritical by less than the above reactivity equivalent, immediately initiate and continue boration at greater than or equal to 26 gpm of a solution containing greater than or equal to 4000 ppm boron or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

SURVEILLANCE REQUIREMENTS

4.10.1.1 The position of each full-length and part-length CEA required either partially or fully withdrawn shall be determined at least once per 2 hours.

4.10.1.2 Each CEA not fully inserted shall be demonstrated capable of full insertion when tripped from at least the 50% withdrawn position within ~~24 hours~~ 7 days prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.2.

4.10.1.3 When in MODE 3 or MODE 4, the reactor shall be determined to be subcritical by at least the reactivity equivalent of the highest estimated CEA worth or the reactivity equivalent of the highest estimated CEA worth is available for trip insertion from OPERABLE CEAs at least once per 2 hours by consideration of at least the following factors:

a. Reactor Coolant System boron concentration,

b. CEA position,

c. Reactor Coolant System average temperature,

d. Fuel burnup based on gross thermal energy generation,

e. Xenon concentration, and

f. Samarium concentration.

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*Operation in MODE 3 and MODE 4 shall be limited to 6 consecutive hours.

APPLICABILITY

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be applicable during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval.

4.0.3 Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours. Surveillance Requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an OPERATIONAL MODE or other specified condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the stated surveillance interval or as otherwise specified. This provision shall not prevent passage through or to operational MODES as required to comply with ACTION requirements.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:

a. Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.2 is determined at least once per 12 hours.

Otherwise, be in at least HOT STANDBY within 6 hours.

d. With one full-length CEA inoperable due to causes other than addressed by ACTION a., above, but within its above specified alignment requirements, operation in MODES 1 and 2 may continue pursuant to the requirements of Specification 3.1.3.6.

e. With one part-length CEA inoperable and inserted in the core, operation may continue provided the alignment of the inoperable part length CEA is maintained within 6.6 inches (indicated position) of all other part-length CEAs in its group and the CEA is maintained pursuant to the requirements of Specification 3.1.3.7.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position of each full-length and part-length CEA shall be determined to be within 6.6 inches (indicated position) of all other CEAs in its group at least once per 12 hours except during time intervals when one CEAC is inoperable or when both CEACs are inoperable, then verify the individual CEA positions at least once per 4 hours.

4.1.3.1.2 Each full-length CEA not fully inserted and each part-length CEA which is inserted in the core shall be determined to be OPERABLE by movement of at least 5 inches in any one direction at least once per ~~31~~ 92 days.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. Area Monitors				
A. Fuel Pool Area RU-31	S	R	Q ~~M~~	**
B. New Fuel Area RU-19	S	R	Q ~~M~~	*
C. Containment Power Access Purge Exhaust RU-37 & RU-38	P#	R	P###,W###	##
D. Containment RU-148 & RU-149	S	R	Q ~~M~~	1,2,3,4
E. Main Steam RU-139 A&B RU-140 A&B	S	R	Q ~~M~~	1,2,3,4
2. Process Monitors				
A. Containment Building Atmosphere RU-1 1) Particulate	S	R	Q ~~M~~	1,2,3,4
2) Gaseous	S	R	Q ~~M~~	1,2,3,4
B. Control Room Ventilation Intake RU-29 & RU-30	S	R	Q ~~M~~	All MODES
3. Post Accident Sampling System	N.A.	R	M***	1,2,3

*With fuel in the storage pool or building.
**With irradiated fuel in the storage pool.
***The functional test should consist of, but not be limited to, a verification of system sampling capabilities.
#If purge is in service for greater than 12 hours, perform once per 12-hour period.
##When purge system is in operation.
###The functional test should consist of, but not be limited to, a verification of system isolation capability by the insertion of a simulated alarm condition.

INSTRUMENTATION

INCORE DETECTORS

LIMITING CONDITION FOR OPERATION

3.3.3.2 The incore detection system shall be OPERABLE with:

a. At least 75% of all incore detector locations, and 75% of all detectors, with at least one detector in each quadrant at each level; and

b. A minimum of six tilt estimates, with at least one at each of three levels.

An OPERABLE incore detector location shall consist of a fuel assembly containing a fixed detector string with a minimum of three OPERABLE rhodium detectors or an OPERABLE movable incore detector capable of mapping the location.

APPLICABILITY: When the incore detection system is used for monitoring:

a. AZIMUTHAL POWER TILT,

b. Radial Peaking Factors,

c. Local Power Density,

d. DNB Margin.

ACTION:

a. With the incore detection system inoperable, do not use the system for the above applicable monitoring or calibration functions.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.2 The incore detection system shall be demonstrated OPERABLE:

a. By performance of a CHANNEL CHECK within 7 days ~~24 hours~~ prior to its use ~~if the system has just been returned to OPERABLE status or if 7 days or more have elasped since last use and at least once per 7 days thereafter when required~~ for monitoring the AZIMUTHAL POWER TILT, radial peaking factors, local power density or DNB margin:

b. At least once per 18 months by performance of a CHANNEL CALIBRATION operation which exempts the neutron detectors but includes all electronic components. The fixed incore neutron detectors shall be calibrated prior to installation in the reactor core.

SURVEILLANCE REQUIREMENTS (Continued)

c. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours**.

d. Monitoring the reactor head flange leakoff system at least once per 24 hours.

4.4.5.2.2 Each Reactor Coolant System pressure isolation valve specified in Table 3.4-1 shall be demonstrated OPERABLE by verifying leakage to be within its limit**:

a. At least once per 18 months, 7 days

b.* Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for ~~72 hours~~ or more and if leakage testing has not been performed in the previous 9 months,

c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve,

d.* Within 24 hours following valve actuation due to automatic or manual action or flow through the valve,

e.* Within 72 hours following a system response to an Engineered Safety Feature actuation signal.

*The provisions of Specifications 4.4.5.2.2.b, 4.4.5.2.2.d, and 4.4.5.2.2.e are not applicable for valves UV 651, UV 652, UV 653 and UV 654 due to position indication of valves in the control room.
**The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

EMERGENCY CORE COOLING SYSTEMS

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 the valves key-locked shut:

Valve Number	Valve Function	Valve Position
1. SIA HV-604	1. HOT LEG INJECTION	1. SHUT
2. SIC HV-321	2. HOT LEG INJECTION	2. SHUT
3. SIB HV-609	3. HOT LEG INJECTION	3. SHUT
4. SID HV-331	4. HOT LEG INJECTION	4. SHUT

b. At least once per 31 days by:

1. Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position, and

2. Verifying that the ECCS piping is full of water by venting the accessible discharge piping high points.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and

At least once daily of

2. ~~For all~~ the affected areas within containment ~~at the completion of containment~~ entry when CONTAINMENT INTEGRITY is established.

d. At least once per 18 months by: by containment entry and during the final

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that upon a recirculation actuation test signal, the containment sump isolation valves open and that a recirculation mode flow path via an OPERABLE shutdown cooling heat exchanger is established.

3. Verifying that each spray pump starts automatically on a safety injection actuation (SIAS) and on a containment spray actuation (CSAS) test signal.

e. At least once per ~~5~~ 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

a. Two feedwater pumps, each capable of being powered from separate OPERABLE emergency busses, and

b. One feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2, 3, and 4*.

ACTION:

a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps 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.

b. With two auxiliary feedwater pumps inoperable be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

c. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

b. ~~a.~~ At least once per ~~31~~ 92 days on a STAGGERED TEST BASIS by:

1. Testing the turbine-driven pump and both motor-driven pumps pursuant to Specification 4.0.5. The provisions of Specification 4.0.4 are not applicable for the turbine-driven pump for entry into MODE 3.

a. At least once per 31 days:

1. ~~a.~~ Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

2. ~~b.~~ Verifying that all manual valves in the suction lines from the primary AFW supply tank (condensate storage tank CTE-T01) to each essential AFW pump, and the manual discharge line valve of each AFW pump are locked, sealed or otherwise secured in the open position.

*Until the steam generators are no longer required for heat removal.

SURVEILLANCE REQUIREMENTS (Continued)

c. b. At least once per 18 months during shutdown by:

1. Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of an auxiliary feedwater actuation test signal.

2. Verifying that each pump that starts automatically upon receipt of an auxiliary feedwater actuation test signal will start automatically upon receipt of an auxiliary feedwater actuation test signal.

d. c. Prior to startup following any refueling shutdown or cold shutdown of 30 days or longer, by verifying on a STAGGERED TEST BASIS (by means of a flow test) that the normal flow path from the condensate storage tank to each of the steam generators through one of the essential auxiliary feedwater pumps delivers at least 750 gpm at 1270 psia or equivalent.

e. d. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or MODE 4 for the turbine-driven pump.

3/4.10 SPECIAL TEST EXCEPTIONS

3/4.10.1 SHUTDOWN MARGIN AND K_{N-1} - CEA WORTH TESTS

LIMITING CONDITION FOR OPERATION

3.10.1 The SHUTDOWN MARGIN and K_{N-1} requirements of Specification 3.1.1.2 may be suspended for measurement of CEA worth and shutdown margin provided reactivity equivalent to at least the highest estimated CEA worth is available for trip insertion from OPERABLE CEA(s), or the reactor is subcritical by at least the reactivity equivalent of the highest CEA worth.

APPLICABILITY: MODES 2, 3* and 4*.

ACTION:

a. With any full-length CEA not fully inserted and with less than the above reactivity equivalent available for trip insertion, immediately initiate and continue boration at greater than or equal to 26 gpm of a solution containing greater than or equal to 4000 ppm boron or its equivalent until the SHUTDOWN MARGIN and K_{N-1} required by Specification 3.1.1.2 are restored.

b. With all full-length CEAs fully inserted and the reactor subcritical by less than the above reactivity equivalent, immediately initiate and continue boration at greater than or equal to 26 gpm of a solution containing greater than or equal to 4000 ppm boron or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

SURVEILLANCE REQUIREMENTS

4.10.1.1 The position of each full-length and part-length CEA required either partially or fully withdrawn shall be determined at least once per 2 hours.

4.10.1.2 Each CEA not fully inserted shall be demonstrated capable of full insertion when tripped from at least the 50% withdrawn position within 7 days ~~24 hours~~ prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.2.

4.10.1.3 When in MODE 3 or MODE 4, the reactor shall be determined to be subcritical by at least the reactivity equivalent of the highest estimated CEA worth or the reactivity equivalent of the highest estimated CEA worth is available for trip insertion from OPERABLE CEAs at least once per 2 hours by consideration of at least the following factors:

a. Reactor Coolant System boron concentration,

b. CEA position,

c. Reactor Coolant System average temperature,

d. Fuel burnup based on gross thermal energy generation,

e. Xenon concentration, and

f. Samarium concentration.

*Operation in MODE 3 and MODE 4 shall be limited to 6 consecutive hours.