



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-528

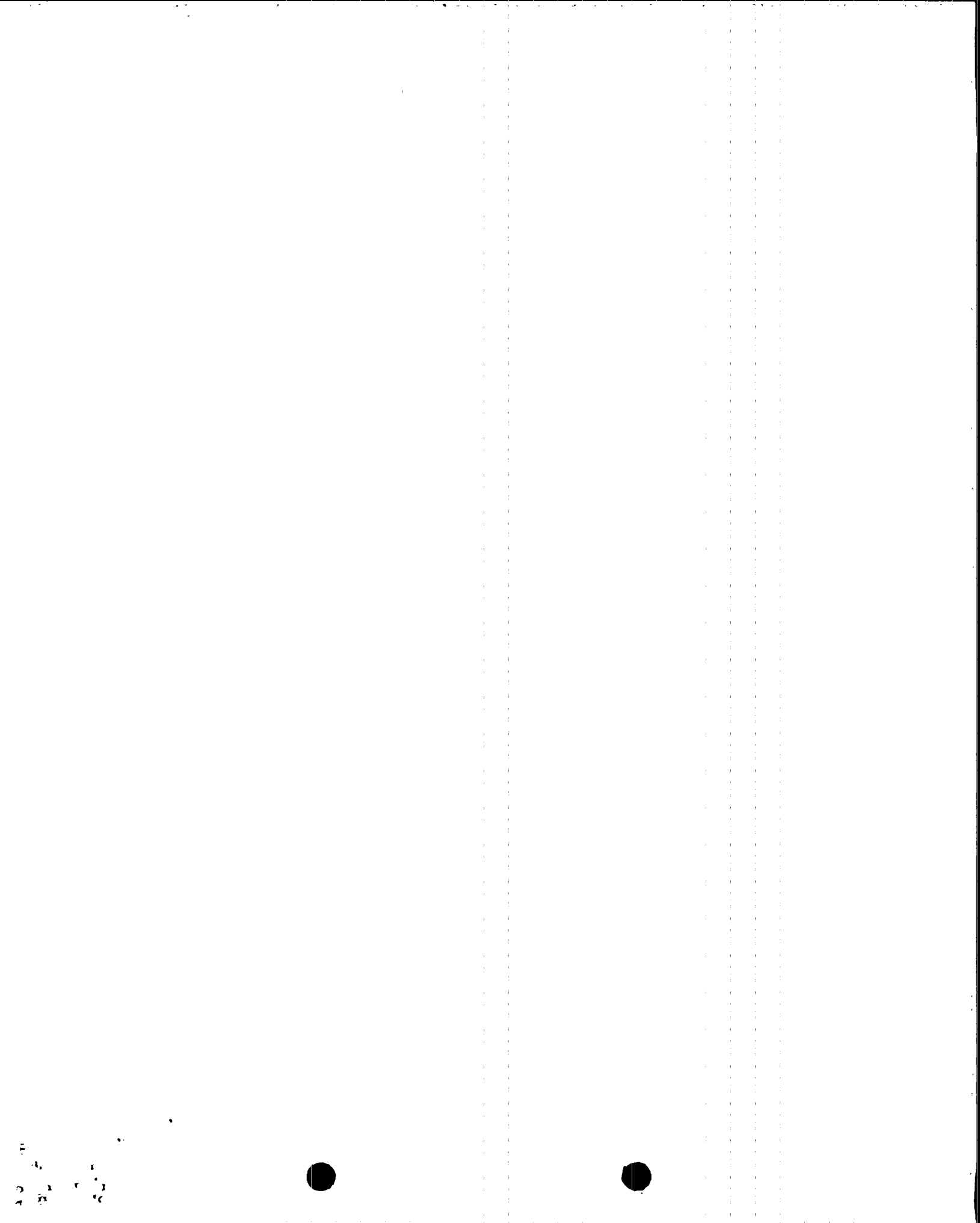
PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 79  
License No. NPF-41

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated January 4, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-41 is hereby amended to read as follows:

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(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 79, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of issuance and must be fully implemented no later than 45 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Theodore R. Quay, Director  
Project Directorate IV-2  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: September 2, 1994



1. 2. 3.

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 79 TO FACILITY OPERATING LICENSE NO. NPF-41

DOCKET NO. STN 50-528

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove

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## 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 92 days.\*

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\*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).

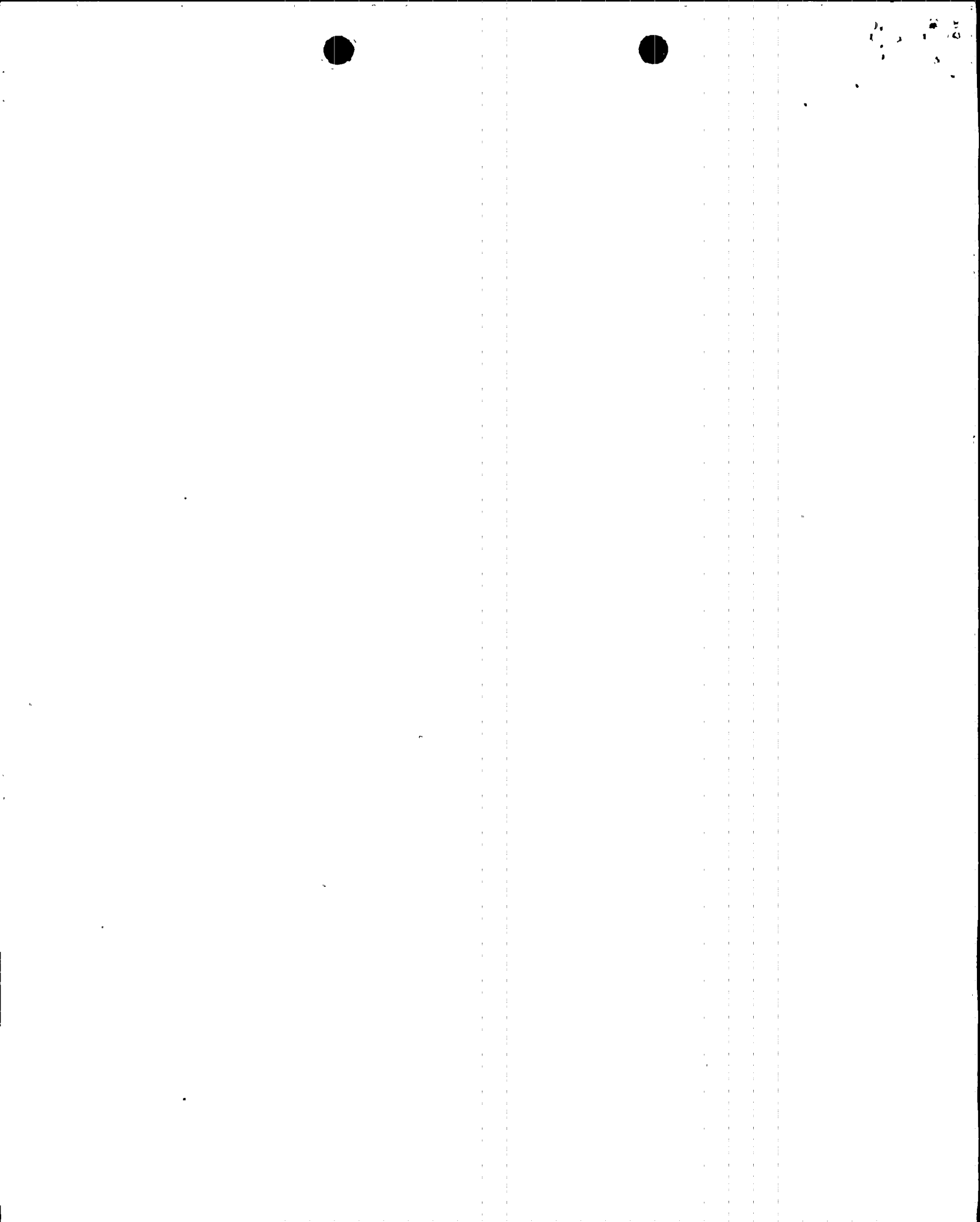




TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
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.

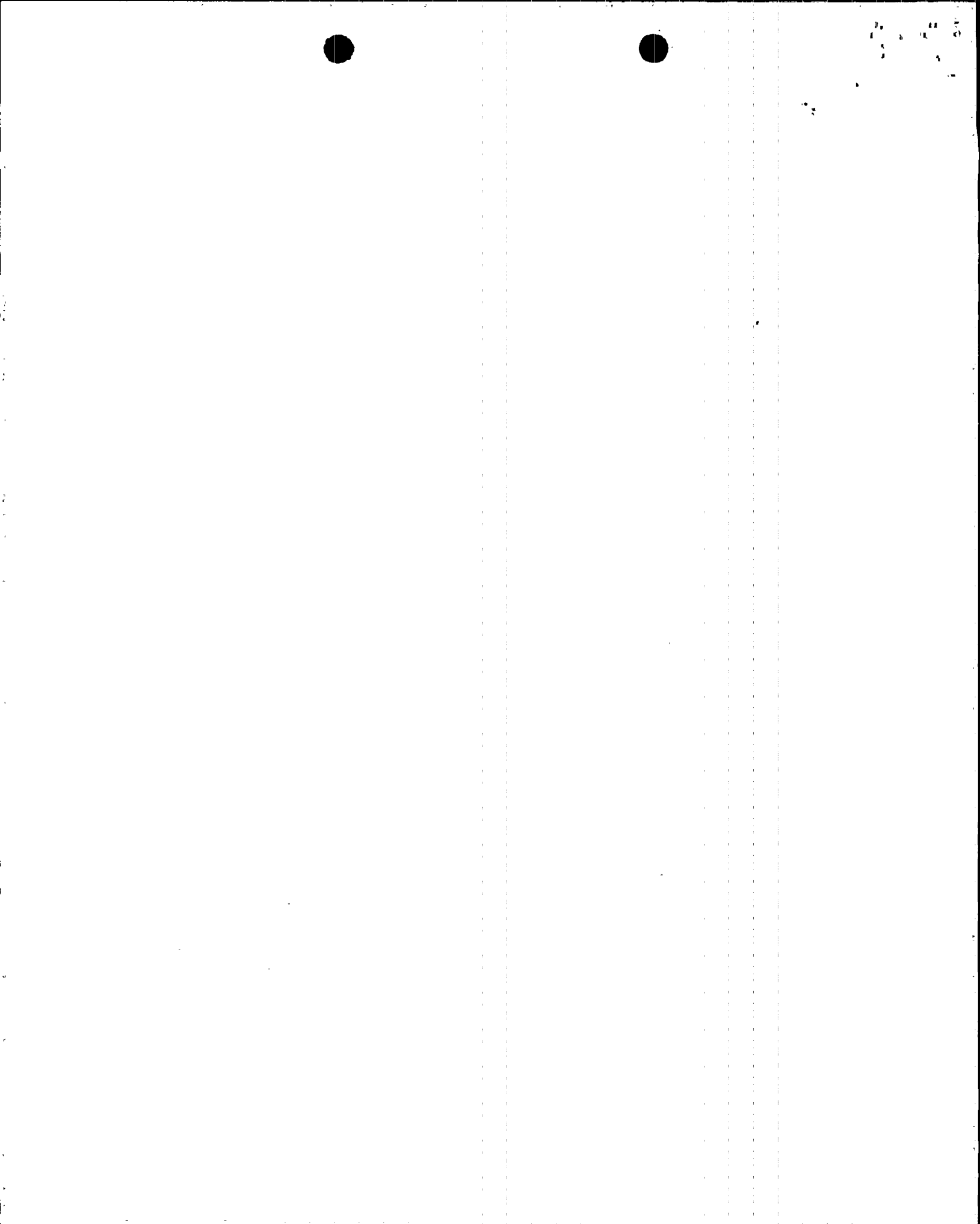
\*\*With irradiated fuel in the storage pool.

\*\*\*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

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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:

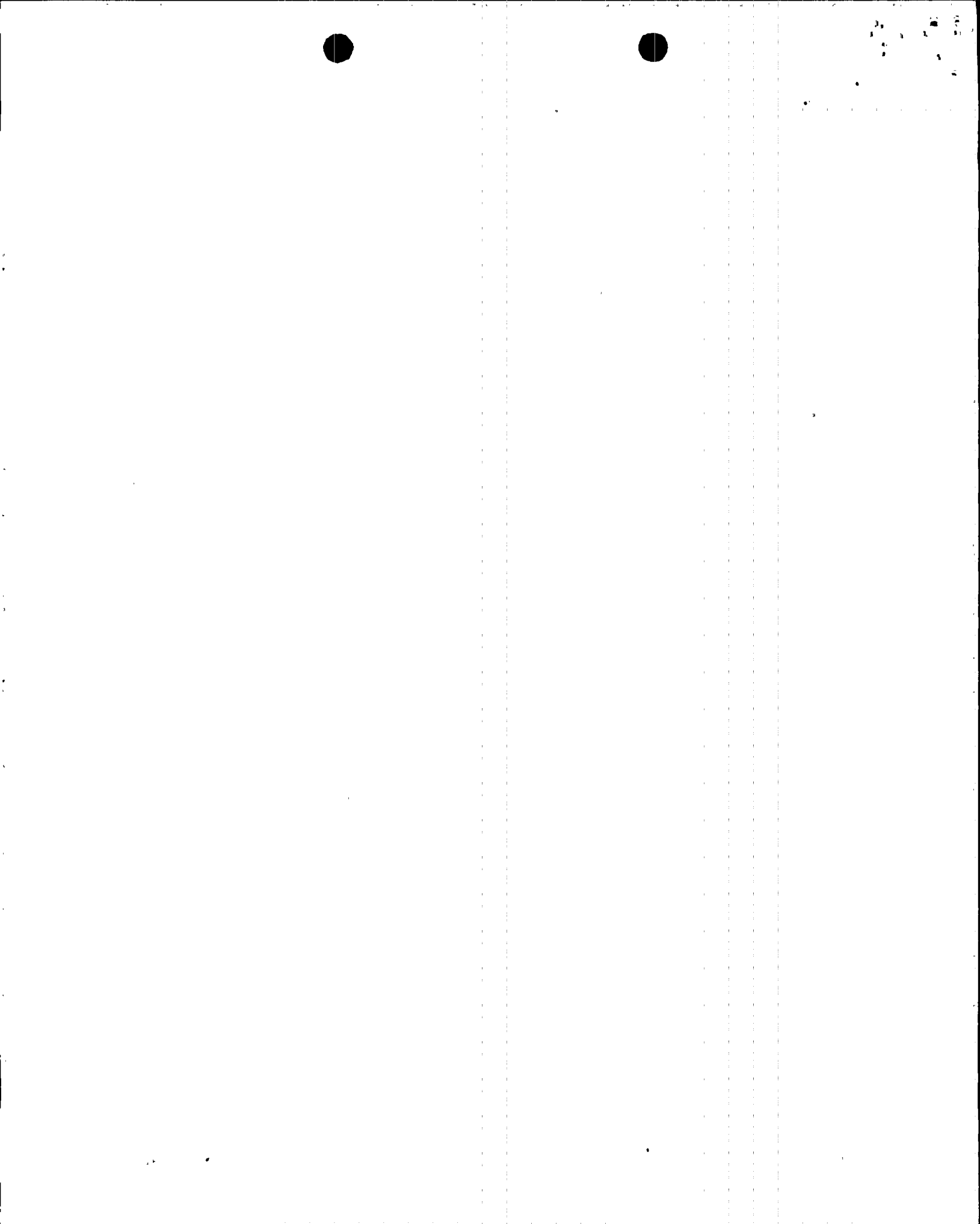
- a. With the incore detection system inoperable, do not use the system for the above applicable monitoring or calibration functions.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.3.3.2 The incore detection system shall be demonstrated OPERABLE:

- a. By performance of a CHANNEL CHECK within 7 days prior to its use 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.



## REACTOR COOLANT SYSTEM

### 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.

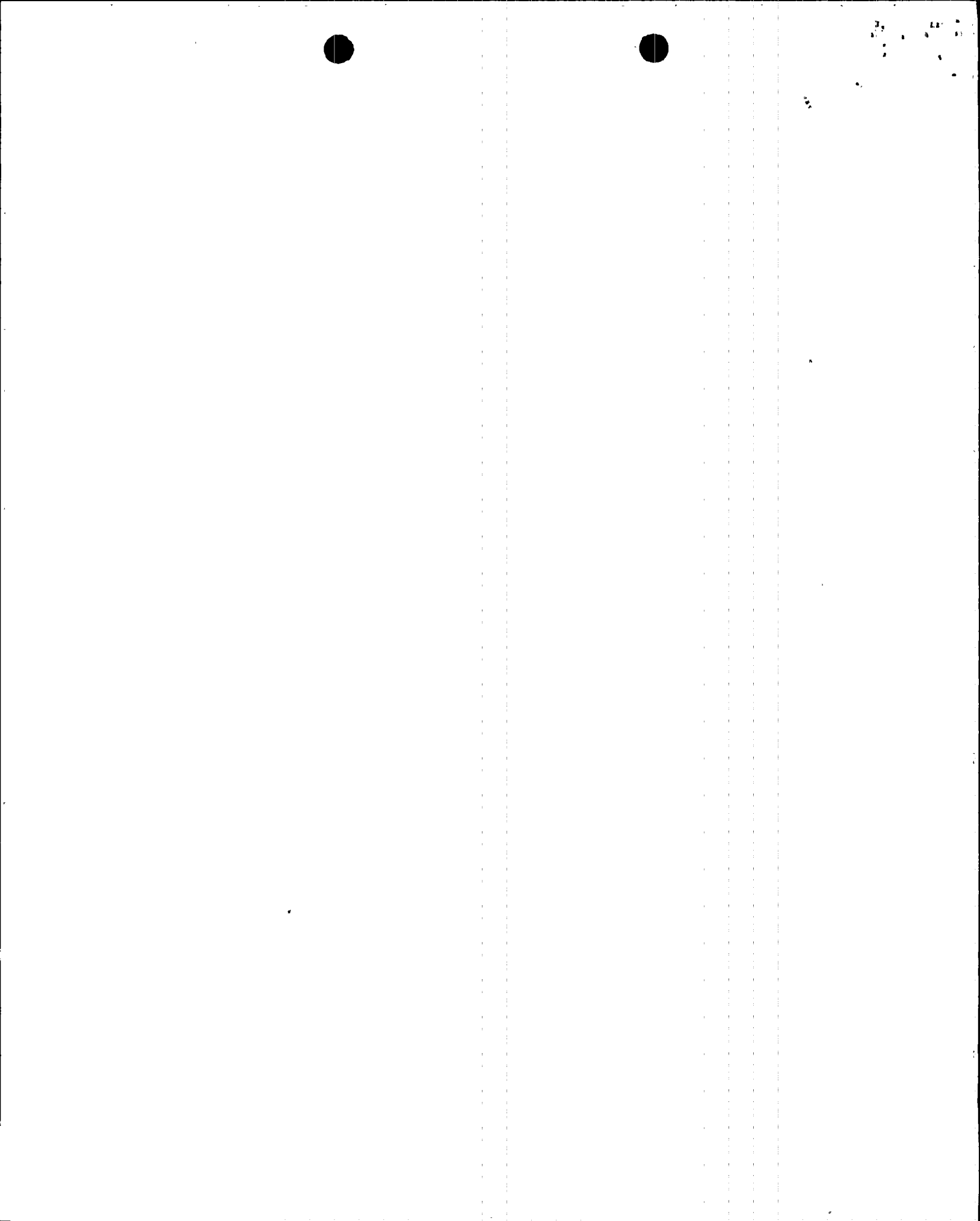
4.4.5.2.2 Each Reactor Coolant System pressure isolation valve specified in Table 3.4-1 shall be demonstrated OPERABLE by verifying leakage to be within its limit\*\*:

- a. At least once per 18 months,
- b.\* Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 7 days 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.

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\*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

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#### 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:

<u>Valve Number</u>	<u>Valve Function</u>	<u>Valve Position</u>
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

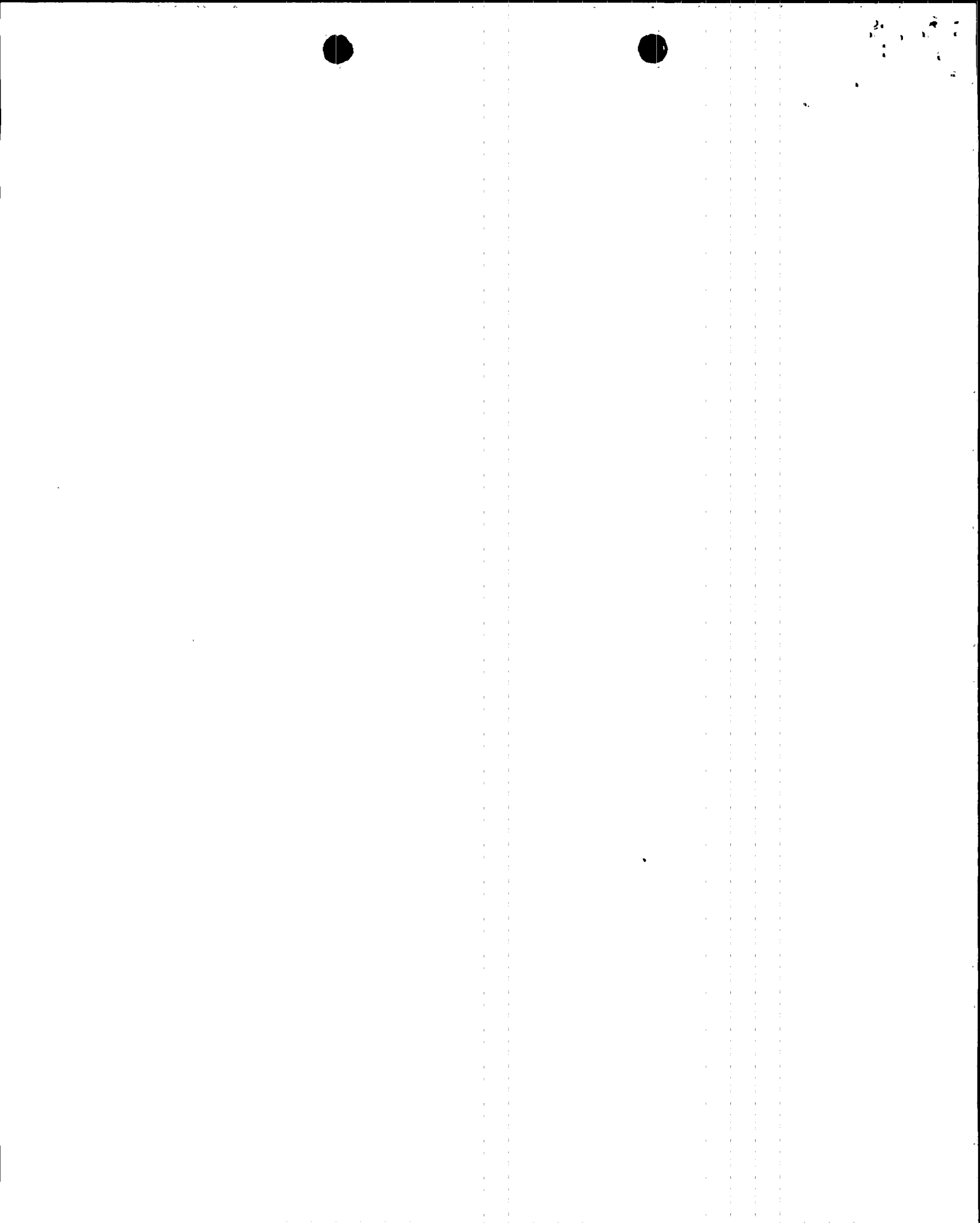
- b. At least once per 31 days by:

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 suction during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
2. At least once daily of the affected areas within containment by containment entry and during the final entry when CONTAINMENT INTEGRITY is established.

- d. At least once per 18 months by:





## CONTAINMENT SYSTEMS

### 3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

#### CONTAINMENT SPRAY SYSTEM

##### LIMITING CONDITION FOR OPERATION

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3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWT on a containment spray actuation signal and automatically transferring suction to the containment sump on a recirculation actuation signal. Each spray system flow path from the containment sump shall be via an OPERABLE shutdown cooling heat exchanger.

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

##### ACTION:

With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours., restore the inoperable spray system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

##### SURVEILLANCE REQUIREMENTS

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4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

- a At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path is positioned to take suction from the RWT on a containment spray actuation (CSAS) test signal.
- b. By verifying that each pump develops an indicated differential pressure of greater than or equal to 257 psid at greater than or equal the minimum allowable recirculation flowrate when tested pursuant to Specification 4.0.5.
- c. At least once per 31 days by verifying that the system piping is full of water to the 60 inch level in the containment spray header ( $\geq 115$  foot level).
- d. At least once per 18 months, during shutdown, by:
  1. Verifying that each automatic valve in the flow path actuates to its correct position on a containment spray actuation (CSAS) and recirculation actuation (RAS) test signal.
  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.

\*Only when shutdown cooling is not in operation.

## CONTAINMENT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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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 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

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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

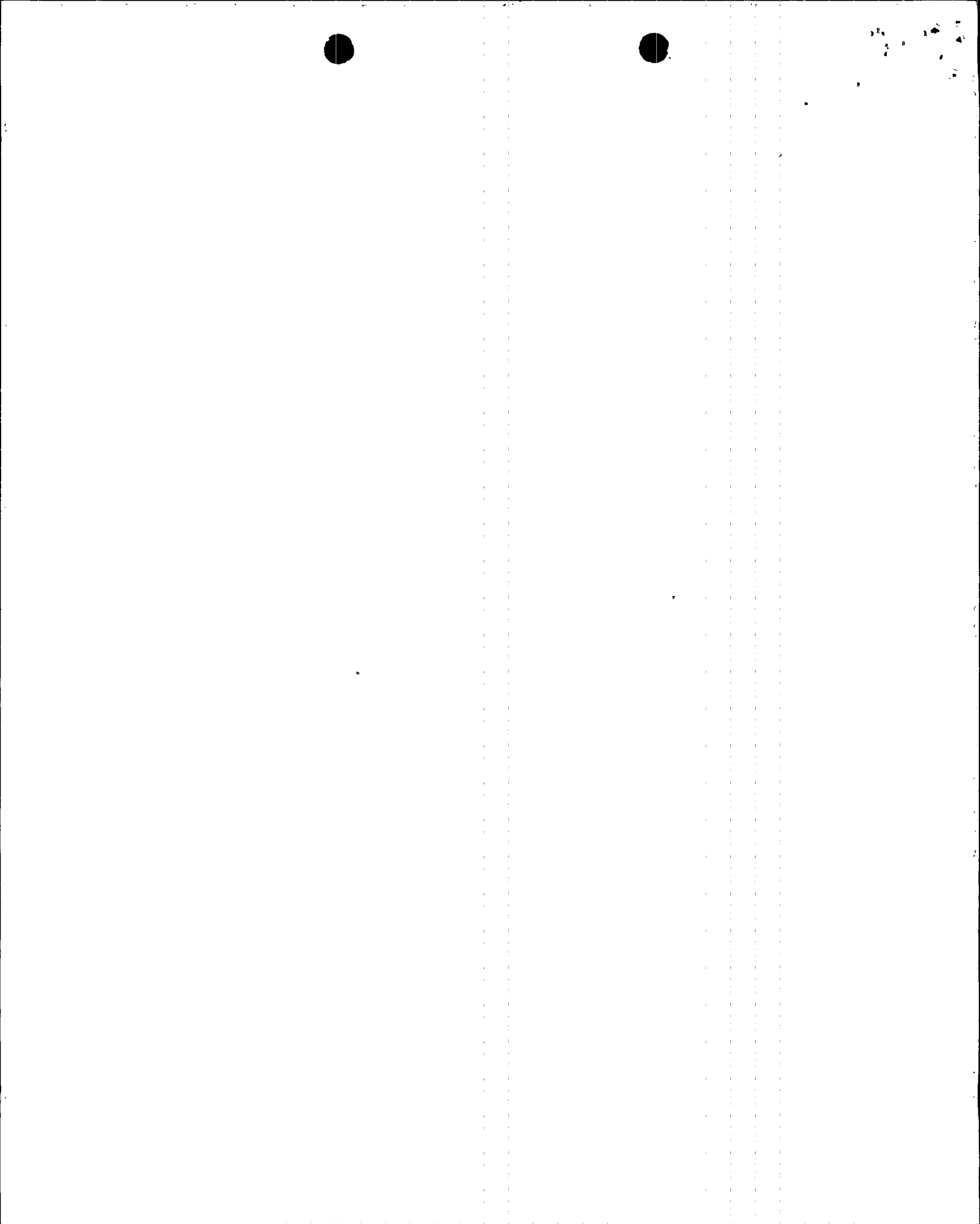
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4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days:
  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.
  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.
- b. At least once per 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.

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

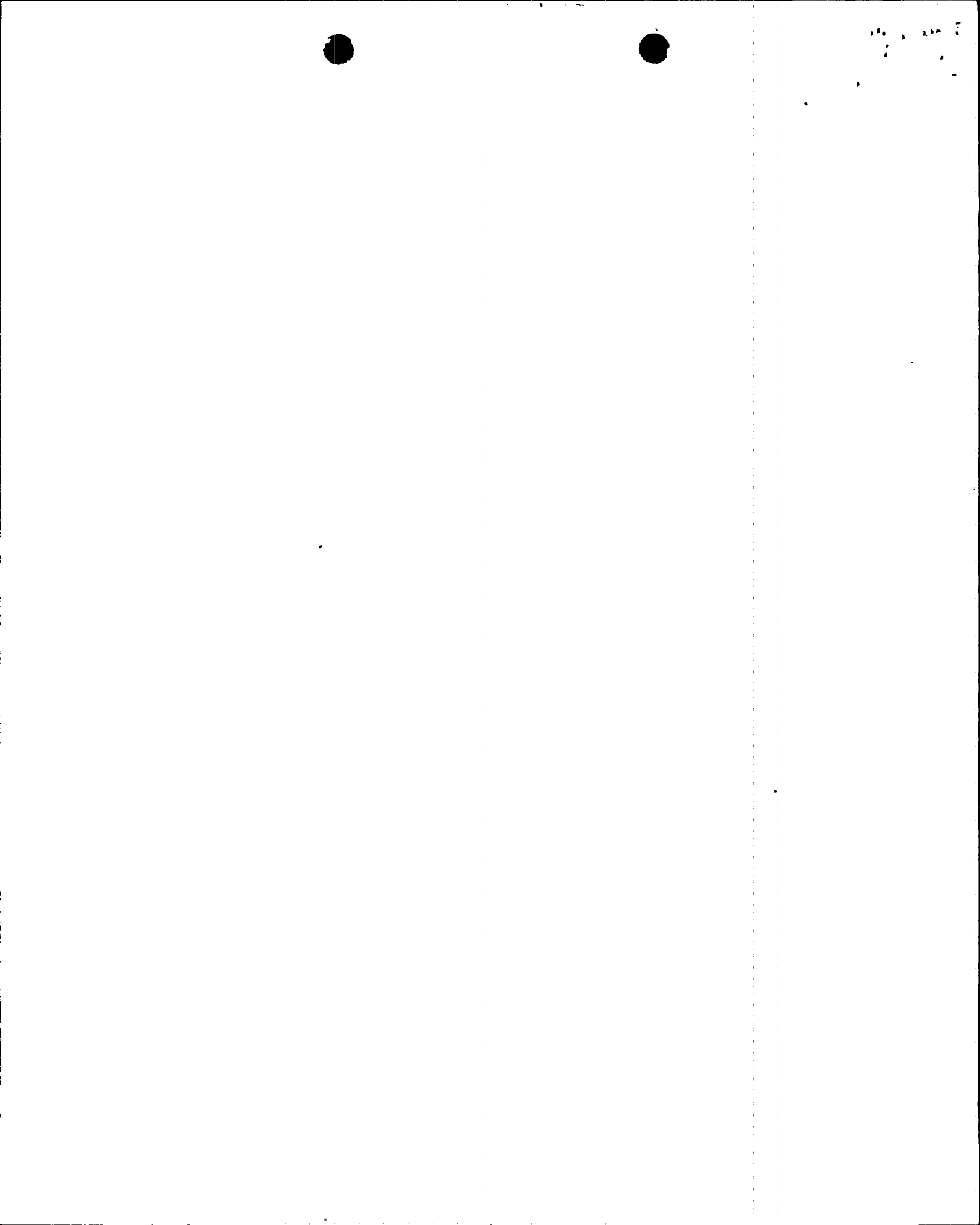


## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS

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- c. 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. 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 650 gpm at 1270 psia or equivalent at the entrance of the steam generator.
- e. 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 OPTIONS

#### 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 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.

## SPECIAL TEST EXCEPTIONS

### 3/4.10.2 MODERATOR TEMPERATURE COEFFICIENT, GROUP HEIGHT, INSERTION, AND POWER DISTRIBUTION LIMITS

#### LIMITING CONDITION FOR OPERATION

3.10.2 The moderator temperature coefficient, group height, insertion, and power distribution limits of Specifications 3.1.1.3, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.1.3.7, 3.2.2, 3.2.3, 3.2.7, and the Minimum Channels OPERABLE requirement of I.C.1 (CEA Calculators) of Table 3.3-1 may be suspended during the performance of PHYSICS TESTS provided:

- a. The THERMAL POWER is restricted to the test power plateau which shall not exceed 85% of RATED THERMAL POWER, and
- b. The limits of Specification 3.2.1 are maintained and determined as specified in Specification 4.10.2.2 below.

APPLICABILITY: MODES 1 and 2.

#### ACTION:

With any of the limits of Specification 3.2.1 being exceeded while the requirements of Specifications 3.1.1.3, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.1.3.7, 3.2.2, 3.2.3, 3.2.7, and the Minimum Channels OPERABLE requirement of I.C.1 (CEA Calculators) of Table 3.3-1 are suspended, either:

- a. Reduce THERMAL POWER sufficiently to satisfy the requirements of Specification 3.2.1, or
- b. Be in HOT STANDBY within 6 hours.

#### SURVEILLANCE REQUIREMENTS

4.10.2.1 The THERMAL POWER shall be determined at least once per hour during PHYSICS TESTS in which the requirements of Specifications 3.1.1.3, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.1.3.7, 3.2.2, 3.2.3, 3.2.7, or the Minimum Channels OPERABLE requirement of I.C.1 (CEA Calculators) of Table 3.3-1 are suspended and shall be verified to be within the test power plateau.

4.10.2.2 The linear heat rate shall be determined to be within the limits of Specification 3.2.1 by monitoring it continuously with the Incore Detector Monitoring System pursuant to the requirements of Specifications 4.2.1.2 and 3.3.3.2 during PHYSICS TESTS above 20% of RATED THERMAL POWER in which the requirements of Specifications 3.1.1.3, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.1.3.7, 3.2.2, 3.2.3, 3.2.7, or the Minimum Channels OPERABLE requirements of I.C.1 (CEA Calculators) of Table 3.3-1 are suspended.





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-529

PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 66  
License No. NPF-51

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated January 4, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Part I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-51 is hereby amended to read as follows:




(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 66, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

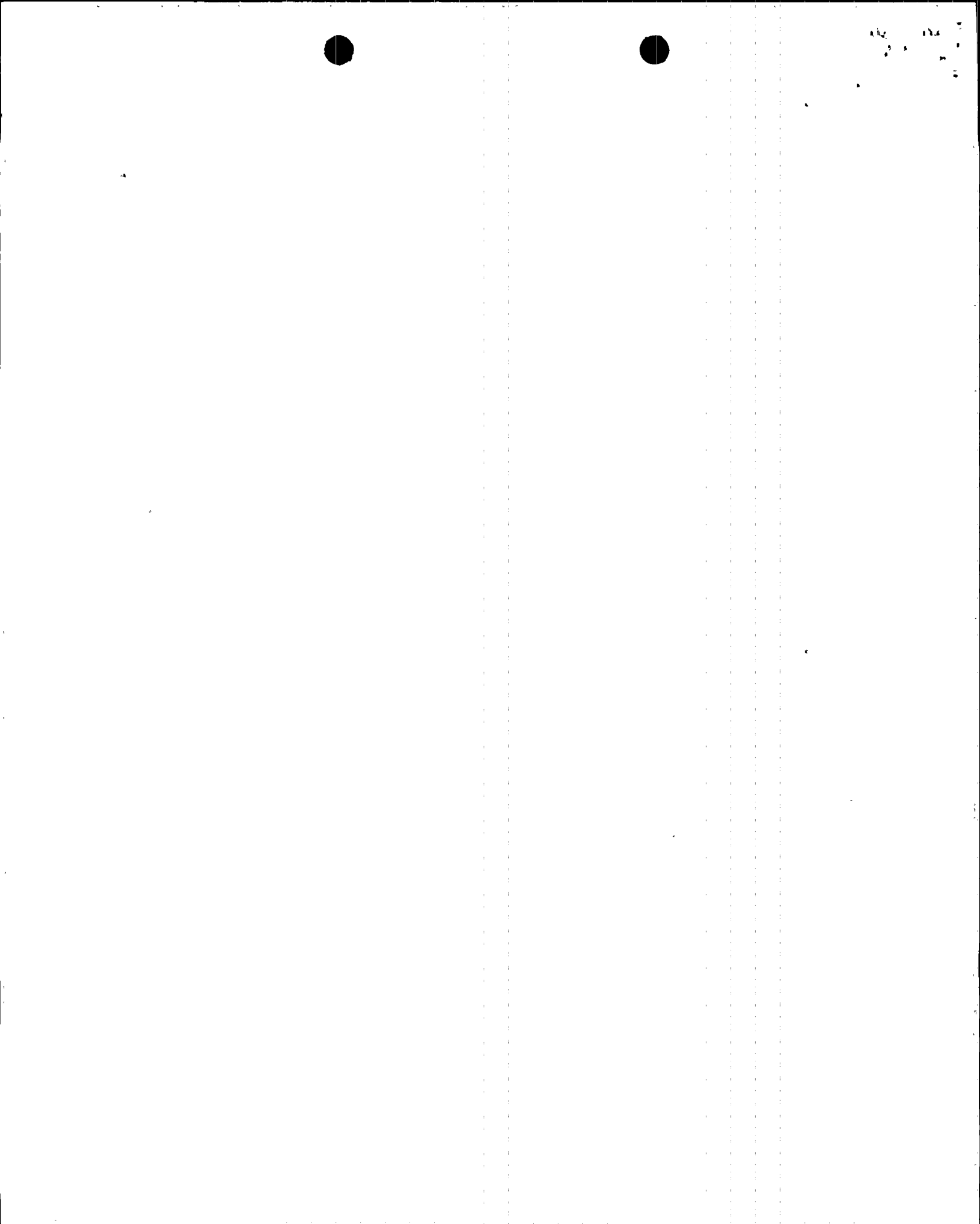
3. This license amendment is effective as of the date of issuance and must be fully implemented no later than 45 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Theodore R. Quay, Director  
Project Directorate IV-2  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: September 2, 1994



ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 66 TO FACILITY OPERATING LICENSE NO. NPF-51

DOCKET NO. STN 50-529

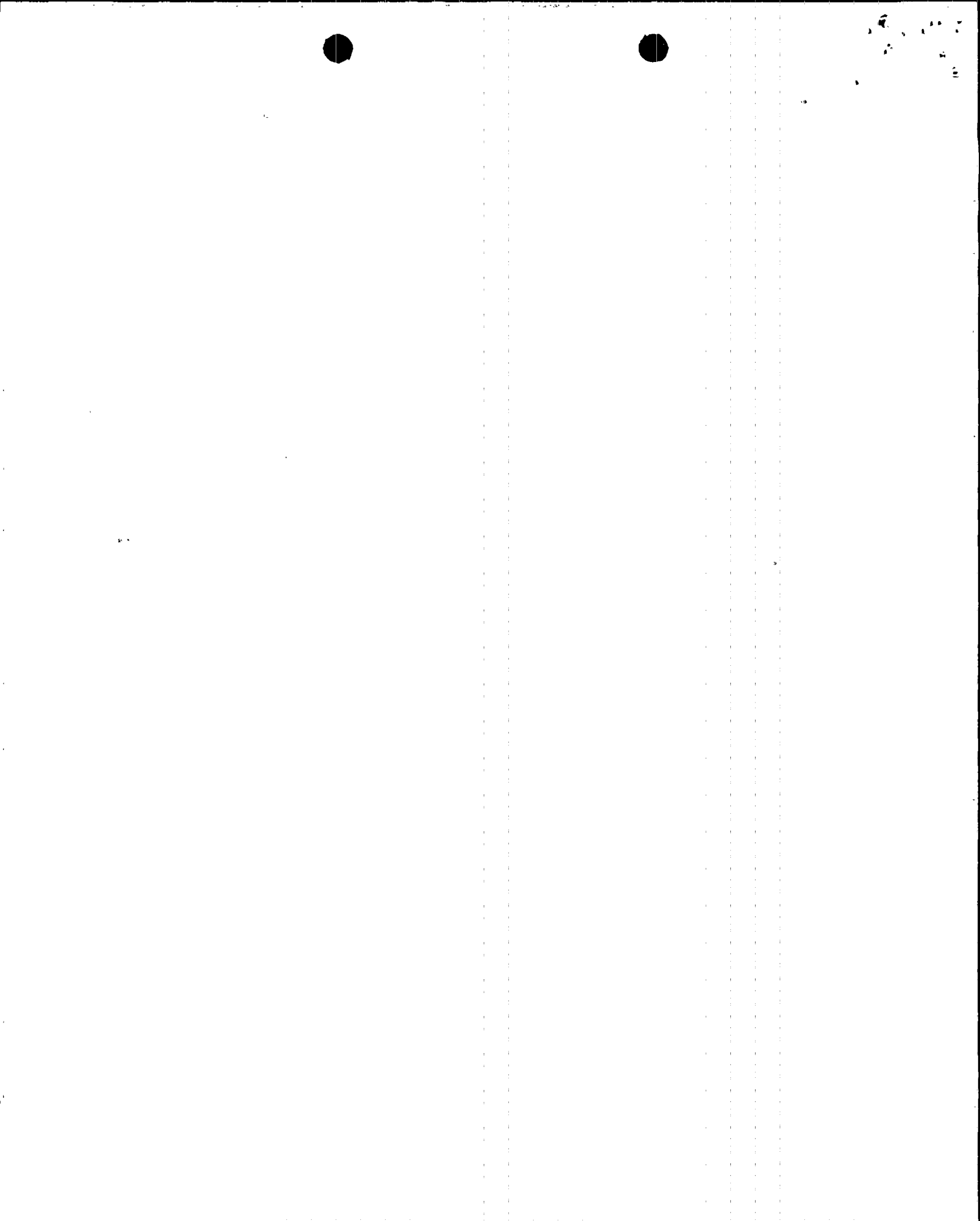
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## REACTIVITY CONTROL SYSTEMS

### 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 92 days.\*

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\*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

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
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

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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:

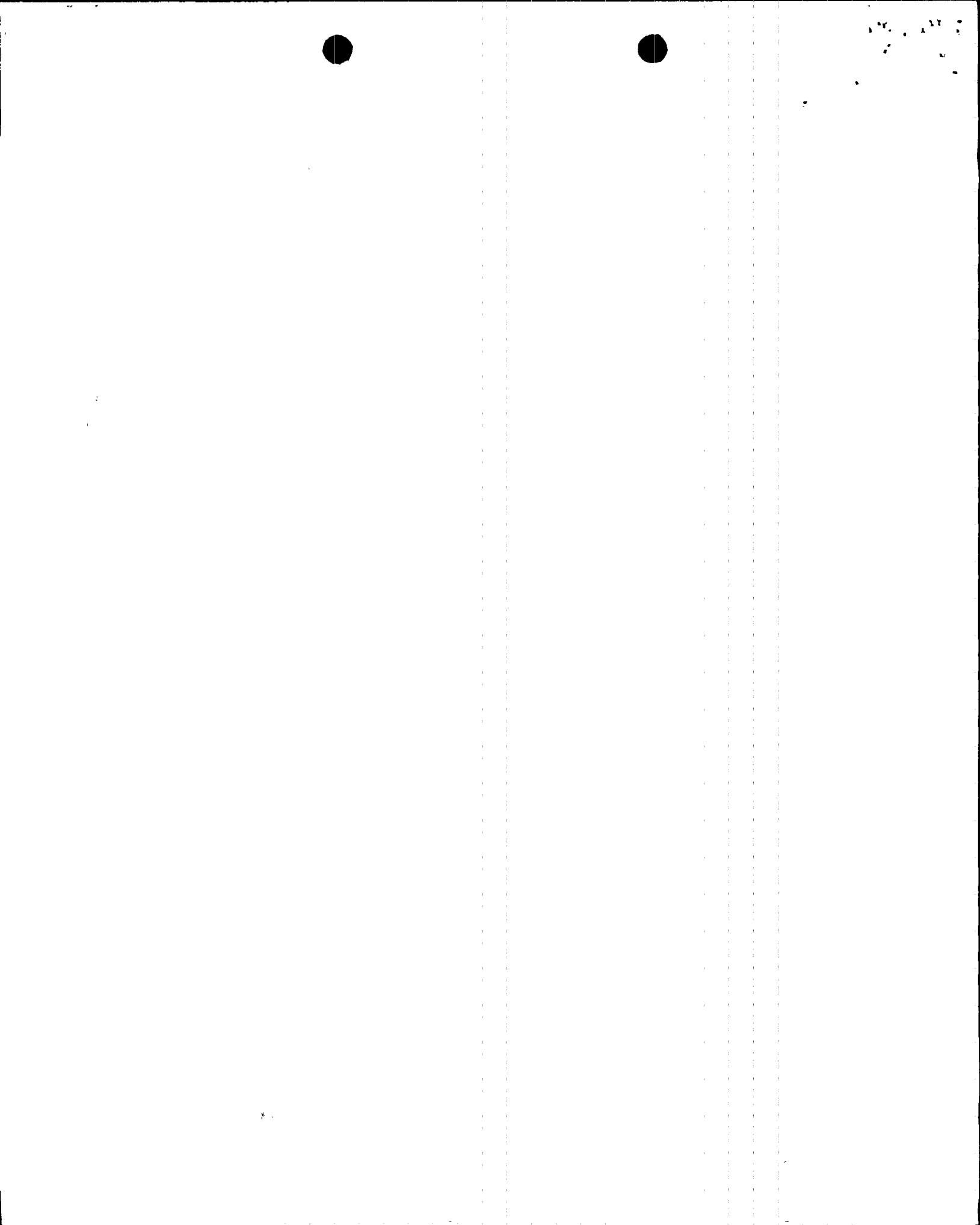
- a. With the incore detection system inoperable, do not use the system for the above applicable monitoring or calibration functions.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.3.3.2 The incore detection system shall be demonstrated OPERABLE:

- a. By performance of a CHANNEL CHECK within 7 days prior to its use 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.



## REACTOR COOLANT SYSTEM

### SURVEILLANCE REQUIREMENTS (Continued)

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- 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,
- b.\* Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 7 days 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.

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\*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

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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:

<u>Valve Number</u>	<u>Valve Function</u>	<u>Valve Position</u>
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

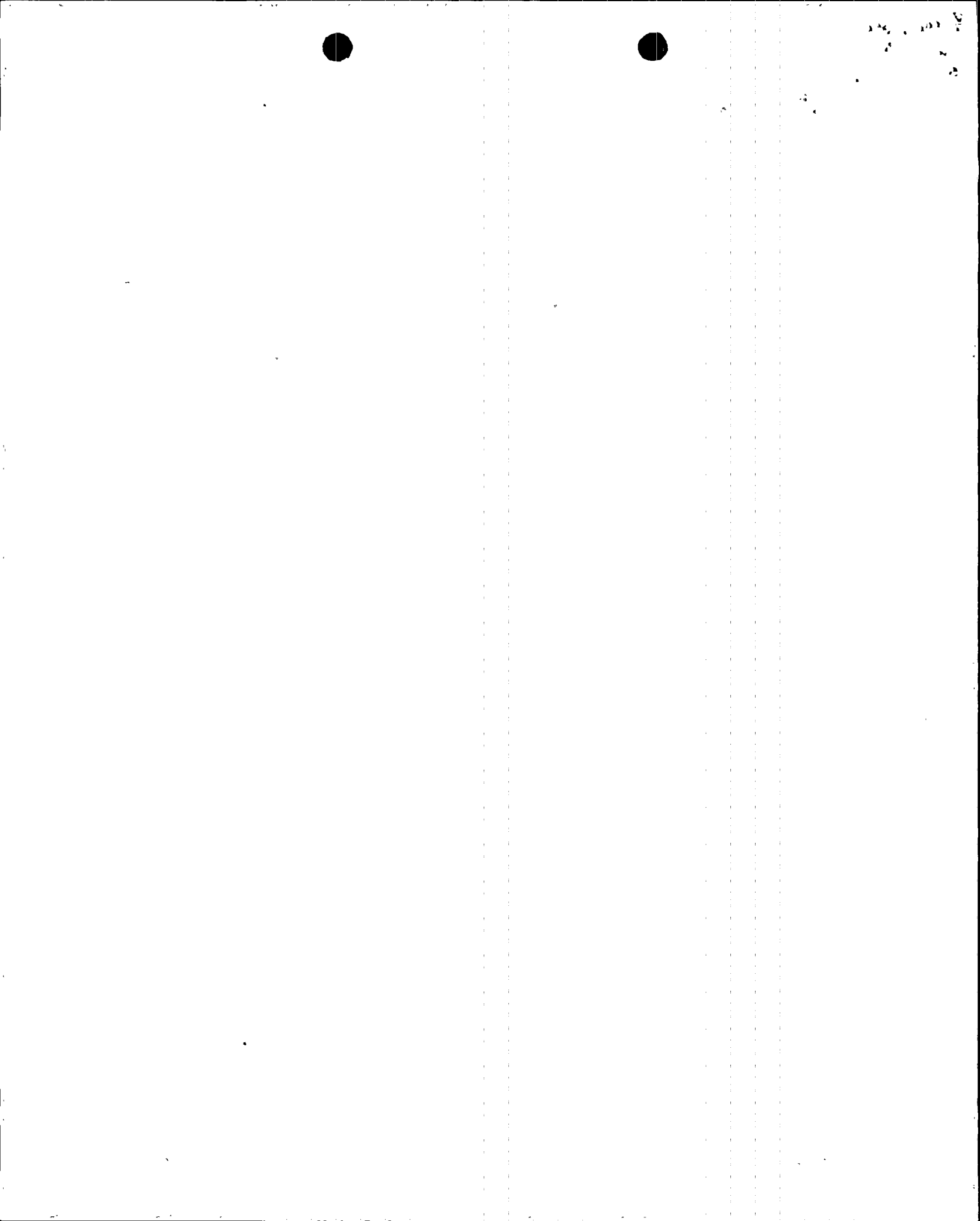
- b. At least once per 31 days by:

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. At least once daily of the affected areas within containment by containment entry and during the final entry when CONTAINMENT INTEGRITY is established.

- d. At least once per 18 months by:



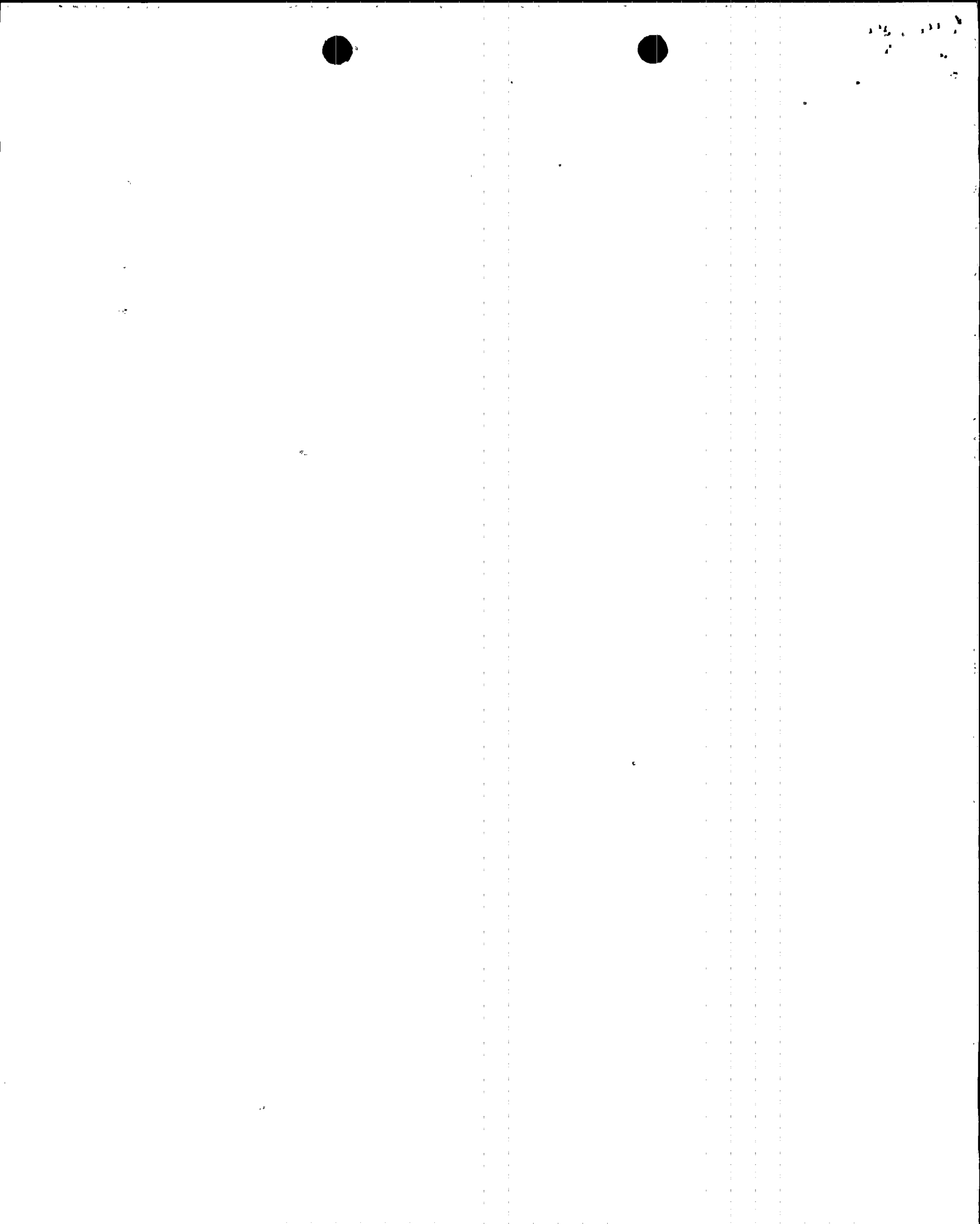


## CONTAINMENT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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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 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

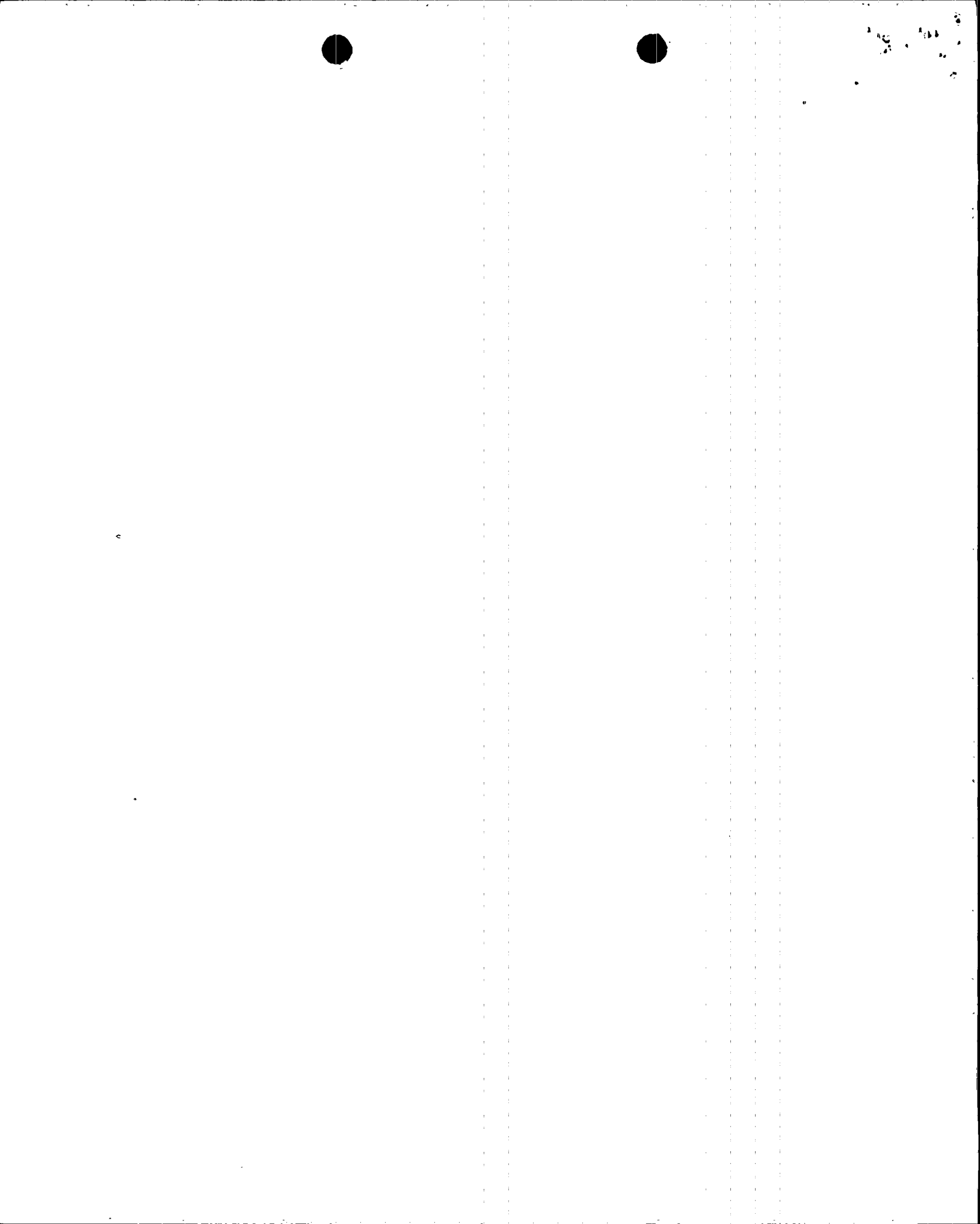
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4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days:
  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.
  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.
- b. At least once per 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.

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

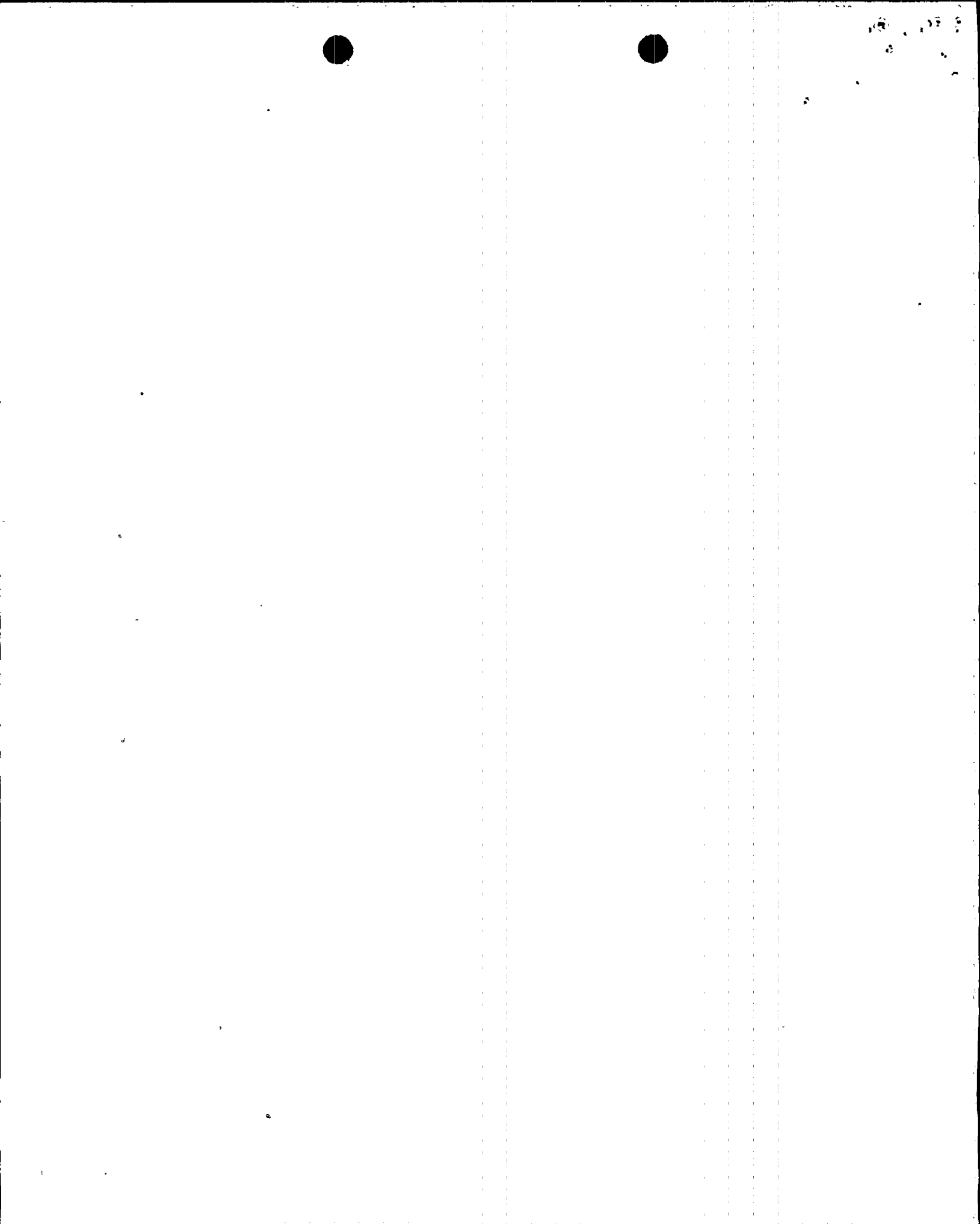


## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS

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- c. 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. 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 650 gpm at 1270 psia or equivalent at the entrance of the steam generator.
- e. 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.

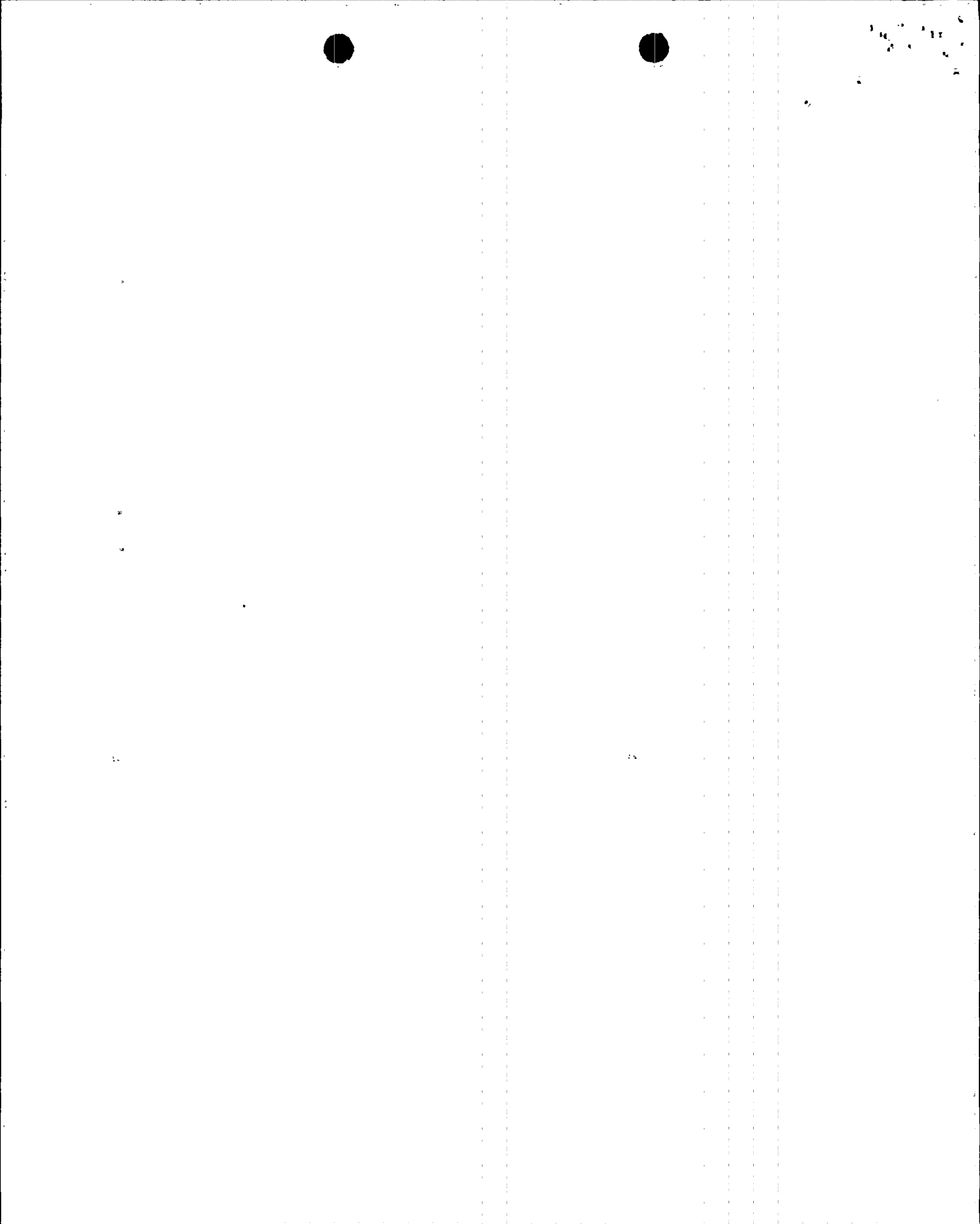
4.10.1.2 Each CEA not fully inserted shall be demonstrated capable of full insertion when tripped from at least the 50% withdrawn position within 7 days prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.1.

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.







UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-530

PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 51  
License No. NPF-74

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated January 4, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-74 is hereby amended to read as follows:

100-111-1




1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 51, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of issuance and must be fully implemented no later than 45 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Theodore R. Quay, Director  
Project Directorate IV-2  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: September 2, 1994



ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 51 TO FACILITY OPERATING LICENSE NO. NPF-74

DOCKET NO. STN 50-530

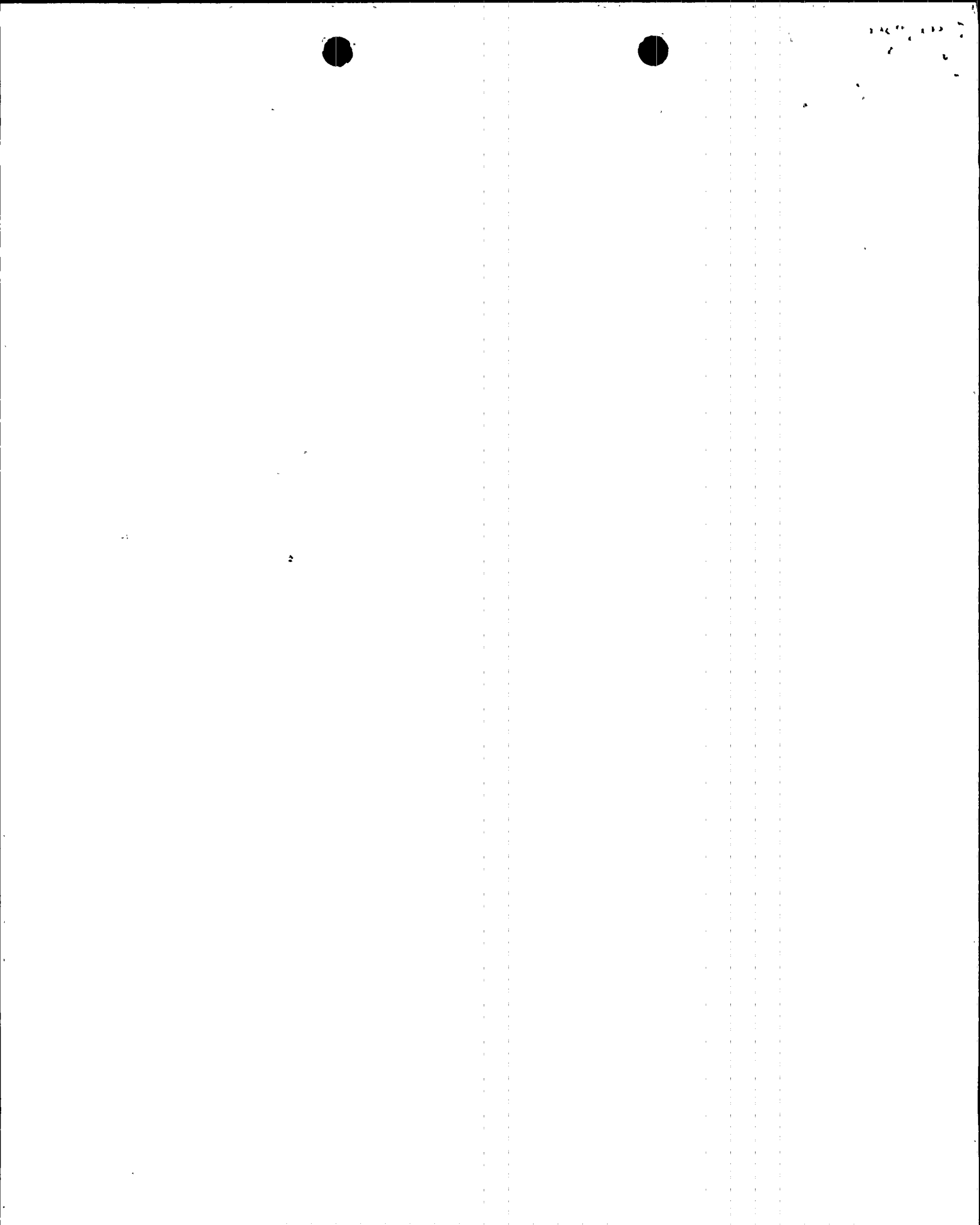
Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove

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  
3/4 10-1

Insert

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  
3/4 10-1



## REACTIVITY CONTROL SYSTEMS

### LIMITING CONDITION FOR OPERATION (Continued)

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#### 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

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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 92 days.

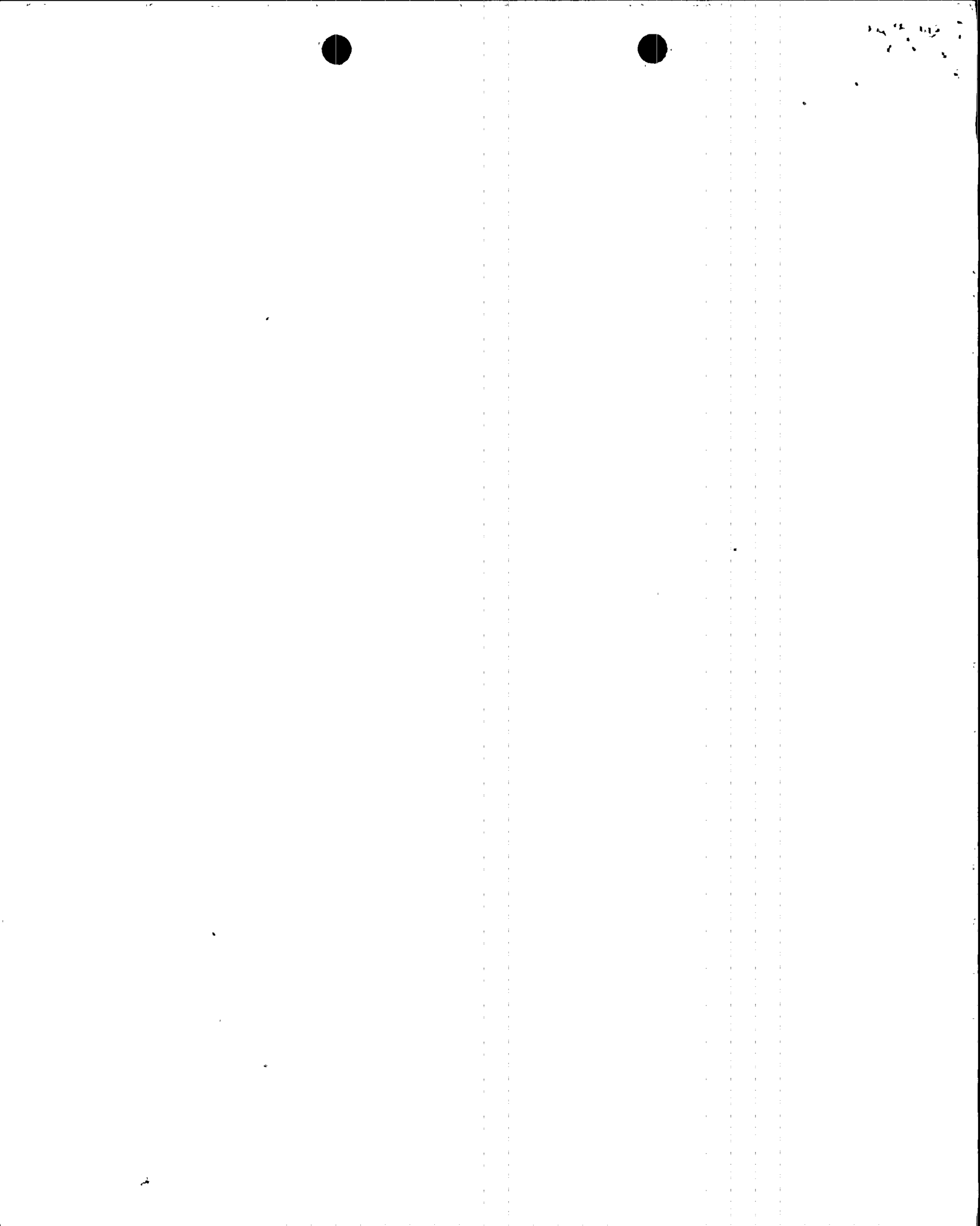




TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
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.



11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847

## INSTRUMENTATION

### INCORE DETECTORS

#### LIMITING CONDITION FOR OPERATION

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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

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4.3.3.2 The incore detection system shall be demonstrated OPERABLE:

- a. By performance of a CHANNEL CHECK within 7 days prior to its use 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.



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## REACTOR COOLANT SYSTEM

### 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.

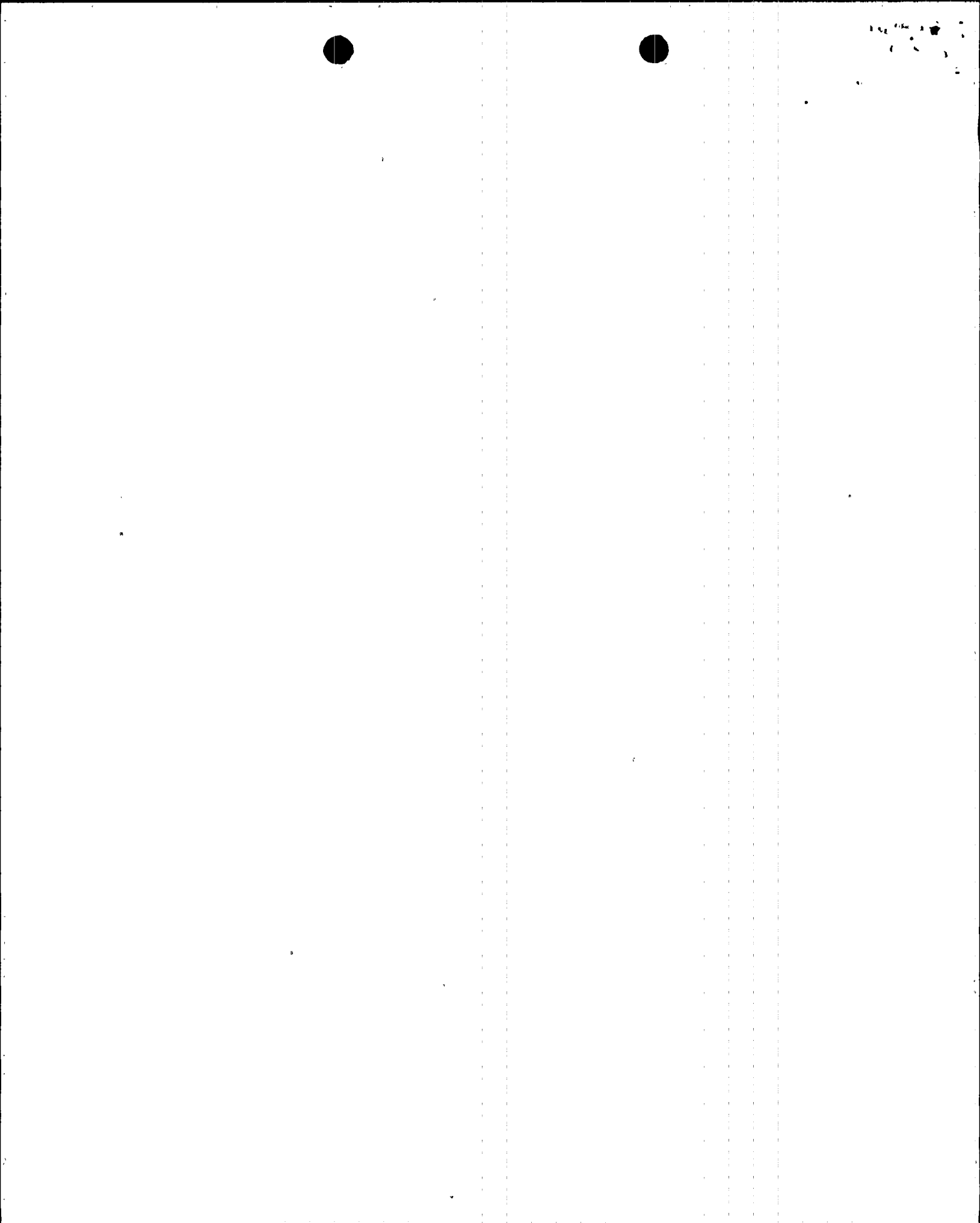
4.4.5.2.2 Each Reactor Coolant System pressure isolation valve specified in Table 3.4-1 shall be demonstrated OPERABLE by verifying leakage to be within its limit\*\*:

- a. At least once per 18 months,
- b.\* Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 7 days 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.

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\*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:

| <u>Valve Number</u> | <u>Valve Function</u> | <u>Valve Position</u> |
|---------------------|-----------------------|-----------------------|
| 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 suction during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
2. At least once daily of the affected areas within containment by containment entry and during the final entry when CONTAINMENT INTEGRITY is established.

- d. At least once per 18 months by:



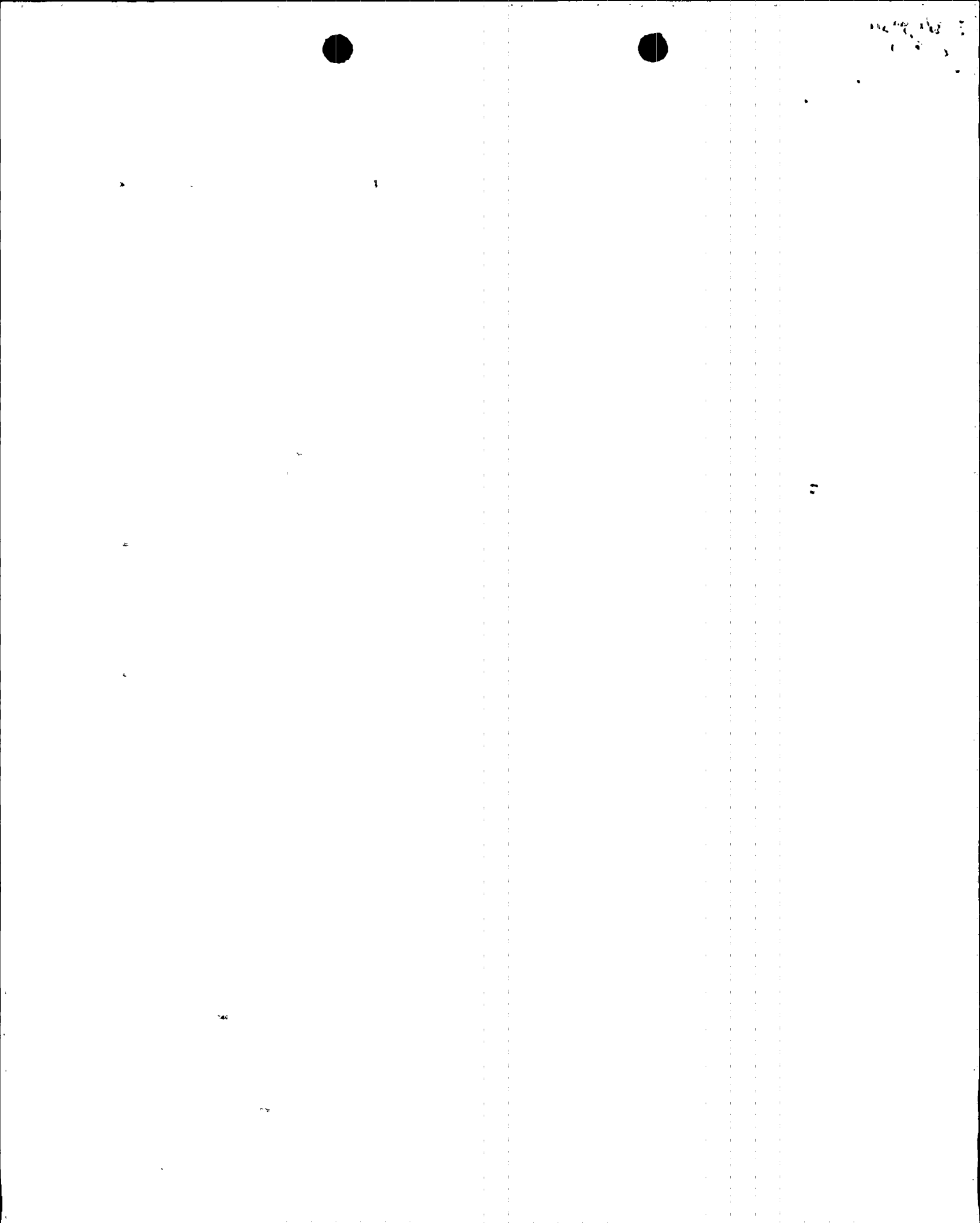


## CONTAINMENT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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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 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

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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

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4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days:
  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.
  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.
- b. At least once per 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.

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



## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS

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- c. 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. 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 650 gpm at 1270 psia or equivalent at the entrance of the steam generator.
- e. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or MODE 4 for the turbine-driven pump.



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### 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.

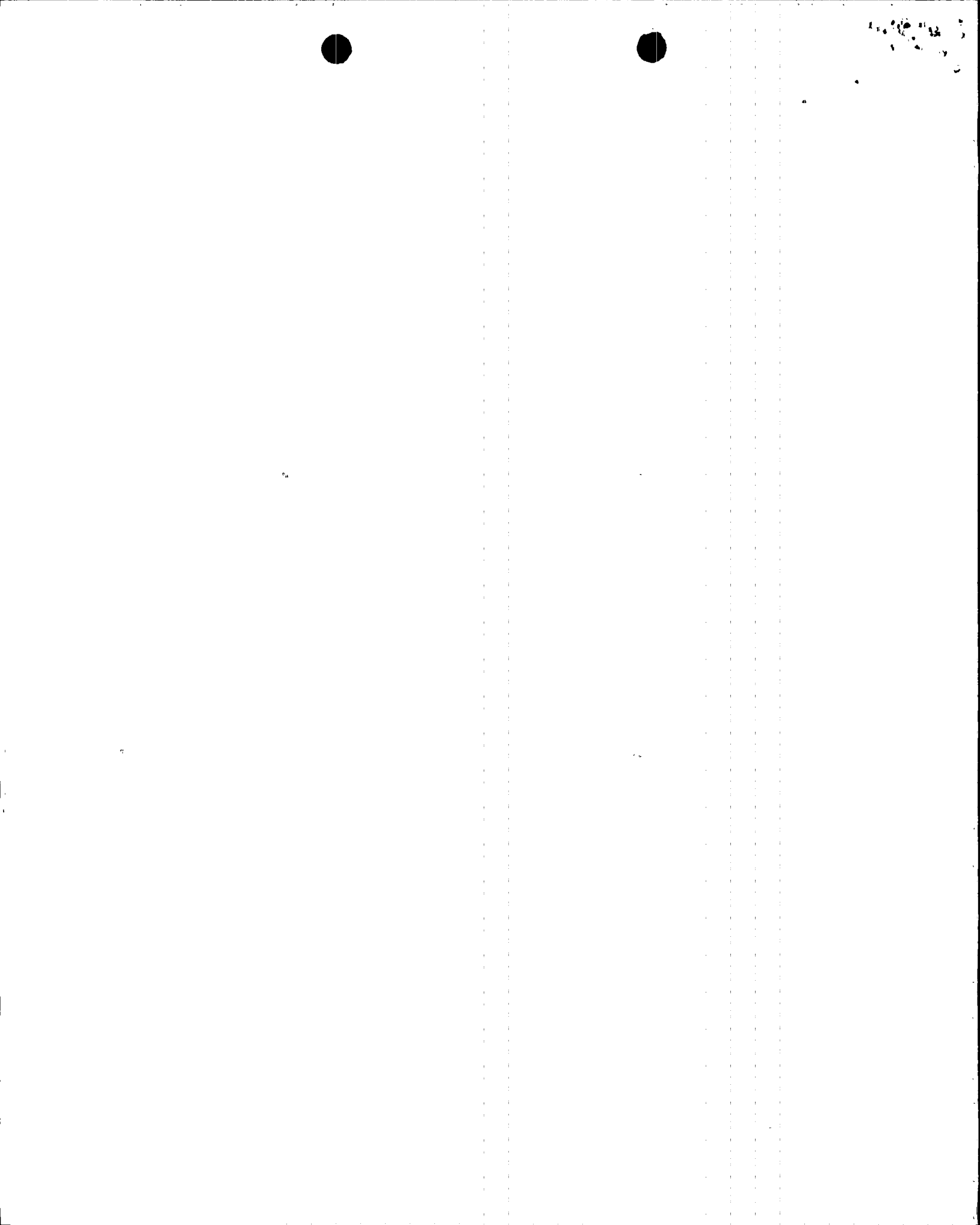
4.10.1.2 Each CEA not fully inserted shall be demonstrated capable of full insertion when tripped from at least the 50% withdrawn position within 7 days prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.1.

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.





effects of these activities on the safety of personnel and the plant. The NRC staff issued guidance on the proposed TS changes to all holders of operating licenses or construction permits for nuclear power reactors in GL 93-05, September 27, 1993.

### 3.0 EVALUATION

The licensee proposed to modify TS SRs as discussed below.

- \* SR 4.1.3.1.2 - the surveillance interval for the control element assembly (CEA) movement is being changed from 31 days to 92 days.
- \* SR 4.3.3.2.a - the frequency for the incore detector channel check is being changed 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."
- \* Table 4.3-3, "Radiation Monitoring Instrumentation Surveillance Requirements" - the channel functional test frequency for the radiation monitor instruments 1.A, 1.B, 1.D, 1.E, 2.A, and 2.B is being changed from monthly to quarterly (M to Q).
- \* SR 4.4.5.2.2.b - the amount of time that the plant can be in Cold Shutdown without leak testing the reactor coolant system (RCS) isolation valves is being changed from 72 hours to 7 days.
- \* SR 4.5.2.c.2 - the frequency of the containment visual inspection is being changed 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."
- \* SR 4.6.2.1.e - the frequency of the containment spray system air or smoke flow test is being changed from 5 years to 10 years.
- \* SR 4.7.1.2.a - the frequency of auxiliary feedwater (AFW) pump testing is being changed from 31 days to 92 days. In addition, 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 4.7.1.2a.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, and d as c, d, and e, respectively.
- \* SR 4.10.1.2 - the time interval for performing a CEA insertion test before reducing shutdown margin is being changed from 24 hours to 7 days.

