

REACTIVITY CONTROL SYSTEMS

FLOW PATHS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 At least two of the following three boron injection flow paths and one associated heat tracing circuit shall be OPERABLE:

- a. Two flow paths from the boric acid storage tanks required to be OPERABLE pursuant to Specifications 3.1.2.8 and 3.1.2.9 via either a boric acid pump or a gravity feed connection, and a charging pump to the Reactor Coolant System, and
- b. The flow path from the refueling water tank via a charging pump to the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore at least two boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 3% $\Delta k/k$ at 200°F within the next 6 hours; restore at least two flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.2 At least two of the above required flow paths shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that the temperature of the heat traced portion of the flow path from the concentrated boric acid tanks is above the temperature limit line shown on Figure 3.1-1.
- b. At least once per 31 days by 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.
- c. At least once per ~~18 months~~ ^{REFUELING INTERVAL} by verifying on a SIAS test signal that 1) each automatic valve in the flow path actuates to its correct position, and 2) each boric acid pump starts.

REACTIVITY CONTROL SYSTEMS

CHARGING PUMPS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.4 At least two charging pumps shall be OPERABLE.*

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one charging pump OPERABLE, restore at least two charging pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 3% $\Delta k/k$ at 200°F within the next 6 hours; restore at least two charging pumps to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.4 At least two charging pumps shall be demonstrated OPERABLE:

- a. At least once per ^{REFUELING INTERVAL} ~~18 months~~ by verifying that each charging pump starts automatically upon receipt of a Safety Injection Activation Test Signal.
- b. No additional Surveillance Requirements other than those required by Specification 4.0.5.

*Above 80% RATED THERMAL POWER the two OPERABLE charging pumps shall have independent power supplies.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

2. Tubes in those areas where experience has indicated potential problems.
- c. The second and third inservice inspections may be less than a full tube inspection by concentrating (selecting at least 50% of the tubes to be inspected) the inspection on those areas of the tube sheet array and on those portions of the tubes where tubes with imperfections were previously found.

The results of each sample inspection shall be classified into one of the following three categories:

<u>Category</u>	<u>Inspection Results</u>
C-1	Less than 5% of the total tubes inspected are degraded tubes and none of the inspected tubes are defective.
C-2	One or more tubes, but not more than 1% of the total tubes inspected are defective, or between 5% and 10% of the total tubes inspected are degraded tubes.
C-3	More than 10% of the total tubes inspected are degraded tubes or more than 1% of the inspected tubes are defective.

Note: In all inspections, previously degraded tubes must exhibit significant (>10%) further wall penetrations to be included in the above percentage calculations.

4.4.5.3 Inspection Frequencies - The above required inservice inspections of steam generator tubes shall be performed at the following frequencies:

- a. ~~The first inservice inspection shall be performed after 6 Effective Full Power Months but within 24 calendar months of initial criticality. Subsequent Inservice inspections shall be performed at intervals of not less than 12 nor more than 24 calendar months after the previous inspection.~~ If two consecutive inspections following service under AVT conditions, not including the preservice inspection, result in all inspection results falling into the C-1 category or if two consecutive inspections demonstrate that previously observed degradation has not continued and no additional degradation has occurred, the inspection interval may be extended to a maximum of once per 40 months. LEAST ONCE PER REFUELING INTERVAL.

REACTOR COOLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. If the ^{RESULTS OF THE} inservice inspection of a steam generator conducted in accordance with Table 4.4-2 ^{AT 40 MONTH INTERVALS} requires a third sample inspection whose results fall in Category C-3, the inspection frequency shall be ^{INCREASED} reduced to at least once per ^{REFRESHING INTERVAL} 20 months. The reduction in inspection frequency shall apply until a subsequent inspection ^{INCREASE} demonstrates that a third sample inspection is not required. ^{SATISFY}
- c. Additional, unscheduled inservice inspections shall be performed on each steam generator in accordance with the first sample inspection specified in Table 4.4-2 during the shutdown subsequent to any of the following conditions:

THE CRITERIA OF SPECIFICATION 4.4.5.3.2; THE INTERVAL MAY THEN BE EXTENDED TO A MAXIMUM OF ONCE PER 40 MONTHS.

1. Primary-to-secondary tube leaks (not including leaks originating from tube-to-tube sheet welds) in excess of the limits of Specification 3.4.6.2,
2. A seismic occurrence greater than the Operating Basis Earthquake,
3. A loss-of-coolant accident requiring actuation of the engineered safeguards, or
4. A main steam line or feedwater line break.

4.4.5.4 Acceptance Criteria

- a. As used in this Specification:

1. Imperfection means an exception to the dimensions, finish or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections.
2. Degradation means a service-induced cracking, wastage, wear or general corrosion occurring on either inside or outside of a tube.
3. Degraded Tube means a tube containing imperfections $\geq 20\%$ of the nominal wall thickness caused by degradation.
4. % Degradation means the percentage of the tube wall thickness affected or removed by degradation.

REACTOR COOLANT SYSTEM

REACTOR COOLANT SYSTEM VENTS

SURVEILLANCE REQUIREMENTS (Continued)

4.4.13.2 Each reactor coolant system vent path shall be demonstrated OPERABLE at least once per ~~18 months~~ by:

REFUELING INTERVAL

- a. Verifying all manual isolation valves in each vent path are locked in the open position.
- b. Verifying flow through the reactor coolant system vent paths with the vent valves open.

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 31 days by verifying the boron concentration of the safety injection tank solution.
- c. At least once per 31 days when the RCS pressure is above 2000 psig, by verifying that power to the isolation valve operator is removed by maintaining the feeder breaker open under administrative control.
- d. Within 4 hours prior to increasing the RCS pressure above 1750 psia by verifying, via local indication at the valve, that the tank isolation valve is open.
- e. At least once per ^{REFUELING INTERVAL} ~~18 months~~ by verifying that each safety injection tank isolation valve opens automatically under each of the following conditions:
 - 1. When the RCS pressure exceeds 300 psia, and
 - 2. Upon receipt of a safety injection test signal.
- f. Within one hour prior to each increase in solution volume of $> 1\%$ of normal tank volume by verifying the boron concentration at the operating high pressure safety injection pump discharge is between 2300 and 2700 ppm.

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- e. At least once per ^{REFUELING INTERVAL} ~~18 months~~ by:
1. Verifying automatic isolation and interlock action of the shutdown cooling system from the Reactor Coolant System when the Reactor Coolant System pressure is above 300 psia.
 2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.
 3. Verifying that a minimum total of 100 cubic feet of solid granular trisodium phosphate dodecahydrate (TSP) is contained within the TSP storage baskets.
 4. Verifying that when a representative sample of 4.0 ± 0.1 grams of TSP from a TSP storage basket is submerged, without agitation, in 3.5 ± 0.1 liters of $77 \pm 10^\circ\text{F}$ borated water from the RWT, the pH of the mixed solution is raised to ≥ 6 within 4 hours.
- f. At least once per ^{REFUELING INTERVAL} ~~18 months~~, during shutdown, by:
1. Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection Actuation test signal.
 2. Verifying that each of the following pumps start automatically upon receipt of a Safety Injection Actuation Test Signal:
 - a. High-Pressure Safety Injection pump.
 - b. Low-Pressure Safety Injection pump.

CONTAINMENT SYSTEMS:

SURVEILLANCE REQUIREMENTS (Continued)

REFUELING INTERVAL

- 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 on Safety Injection Actuation test signal.
 - 2. Verifying that each spray pump starts automatically on a Containment Spray Actuation test signal.
- c. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

CONTAINMENT SYSTEMS

3/4.6.3 IODINE REMOVAL SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.3.1 Three independent containment iodine filter trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one iodine filter train inoperable, restore the inoperable train to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1 Each iodine filter train shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.
- b. At least once per ^{refueling interval} ~~18 months~~ or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
 1. Verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the filter train at a flow rate of 20,000 cfm $\pm 10\%$.
 2. Verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the filter train at a flow rate of 20,000 cfm $\pm 10\%$.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI H510-1975 while operating the filter train at a flow rate of 20,000 cfm $\pm 10\%$.

- refueling interval*
- d. At least once per ~~18~~ months by:
1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 6 inches Water Gauge while operating the filter train at a flow rate of 20,000 cfm $\pm 10\%$.
 2. Verifying that the filter train starts on a Containment Isolation test signal.

CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS - W

LIMITING CONDITION FOR OPERATION

3.6.5.2 Two independent containment hydrogen recombiner systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.2 Each hydrogen recombiner system shall be demonstrated OPERABLE:

- a. At least once per 6 months by verifying during a recombiner system functional test that the minimum heater sheath temperature increases to $\geq 700^{\circ}\text{F}$ within 90 minutes and is maintained for at least 2 hours.
- b. At least once per ^{REFUELING INTERVAL} ~~18 months~~ by:
 1. Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits.
 2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiners (i.e., loose wiring or structural connections, deposits of foreign materials, etc.)
 3. Verifying during a recombiner system functional test that the heater sheath temperature increases to $\geq 1200^{\circ}\text{F}$ within 5 hours and is maintained for at least 4 hours.
 4. Verifying the integrity of the heater electrical circuits by performing a continuity and resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be $\geq 10,000$ ohms.

PLANT SYSTEMS

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1 At least two component cooling water loops shall be OPERABLE. At least one component cooling water heat exchanger shall be operating and the remaining component cooling water heat exchanger may be in standby.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3.1 At least two component cooling water loops 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 that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per ^{REFUELING INTERVAL} ~~18 months~~ during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.

PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4.1 At least two independent service water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.4.1 At least two service water loops 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 that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per ^{REFUELING INTERVAL} ~~18 months~~ during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on Safety Injection Actuation and Containment Spray Actuation test signals.

PLANT SYSTEMS

3/4.7.5 SALT WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 At least two independent salt water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one salt water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

- 4.7.5.1 At least two salt water loops 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 that is not locked, sealed, or otherwise secured in position, is in its correct position.
 - b. At least once per ^{REFUELING INTERNAL} ~~18 months~~ during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.

REACTIVITY CONTROL SYSTEMS

FLOW PATHS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 At least two of the following three boron injection flow paths and one associated heat tracing circuit shall be OPERABLE:

- a. Two flow paths from the boric acid storage tanks required to be OPERABLE pursuant to Specifications 3.1.2.8 and 3.1.2.9 via either a boric acid pump or a gravity feed connection, and a charging pump to the Reactor Coolant System, and
- b. The flow path from the refueling water tank via a charging pump to the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore at least two boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least $3\% \Delta k/k$ at 200°F within the next 6 hours; restore at least two flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.2 At least two of the above required flow paths shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that the temperature of the heat traced portion of the flow path from the concentrated boric acid tanks is above the temperature limit line shown on Figure 3.1-1.
- b. At least once per 31 days by 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.
- c. At least once per ^{REFUELING INTERVAL} ~~18 months~~ by verifying on a SIAS test signal that:
 - (1) each automatic valve in the flow path actuates to its correct position, and
 - (2) each boric acid pump starts.

REACTIVITY CONTROL SYSTEMS

CHARGING PUMPS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.4 At least two charging pumps shall be OPERABLE.*

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one charging pump OPERABLE, restore at least two charging pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 3% $\Delta k/k$ at 200°F within the next 6 hours; restore at least two charging pumps to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

- 4.1.2.4 At least two charging pumps shall be demonstrated OPERABLE:
- a. At least once per ^{REFUELING INTERVAL} ~~18 months~~ by verifying that each charging pump starts automatically upon receipt of a Safety Injection Actuation Test Signal.
 - b. No additional Surveillance Requirements other than those required by Specification 4.0.5.

*Above 80% RATED THERMAL POWER the two OPERABLE charging pumps shall have independent power supplies.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

2. Tubes in those areas where experience has indicated potential problems.
- c. The second and third inservice inspections may be less than a full tube inspection by concentrating (selecting at least 50% of the tubes to be inspected) the inspection on those areas of the tube sheet array and on those portions of the tubes where tubes with imperfections were previously found.

The results of each sample inspection shall be classified into one of the following three categories:

<u>Category</u>	<u>Inspection Results</u>
C-1	Less than 5% of the total tubes inspected are degraded tubes and none of the inspected tubes are defective.
C-2	One or more tubes, but not more than 1% of the total tubes inspected are defective, or between 5% and 10% of the total tubes inspected are degraded tubes.
C-3	More than 10% of the total tubes inspected are degraded tubes or more than 1% of the inspected tubes are defective.

Note: In all inspections, previously degraded tubes must exhibit significant (>10%) further wall penetrations to be included in the above percentage calculations.

4.4.5.3 Inspection Frequencies - The above required inservice inspections of steam generator tubes shall be performed at the following frequencies:

- a. ~~The first inservice inspection shall be performed after 6 Effective Full Power Months but within 24 calendar months of initial criticality. Subsequent inservice inspections shall be performed at intervals of not less than 12 nor more than 24 calendar months after the previous inspection.~~ If two consecutive inspections following service under AVT conditions, not including the preservice inspection, result in all inspection results falling into the C-1 category or if two consecutive inspections demonstrate that previously observed degradation has not continued and no additional degradation has occurred, the inspection interval may be extended to a maximum of once per 40 months. LEAST ONCE PER REPAIRING INTERVAL.

REACTOR COOLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. If the ^{RESULTS OF THE} inservice inspection of a steam generator conducted in accordance with Table 4.4-2 ^{AT 40 MONTH INTERVALS} requires a third sample inspection whose results fall in Category C-3, the inspection frequency shall be ^{INCREASED} reduced to at least once per 20 months. The reduction in inspection frequency shall apply until a subsequent inspection ^{DECREASES INTERVAL} demonstrates that a third sample inspection is not required. ^{INCREASE} THE REDUCTION IN INSPECTION FREQUENCY SHALL APPLY UNTIL A SUBSEQUENT INSPECTION SATISFIES THE CRITERIA OF SPECIFICATION 4.4.5.3.2; THE INTERVAL MAY THEN BE EXTENDED TO A MAXIMUM OF ONCE PER 40 MONTHS.
- c. Additional, unscheduled inservice inspections shall be performed on each steam generator in accordance with the first sample inspection specified in Table 4.4-2 during the shutdown subsequent to any of the following conditions:

1. Primary-to-secondary tube leaks (not including leaks originating from tube-to-tube sheet welds) in excess of the limits of Specification 3.4.6.2,
2. A seismic occurrence greater than the Operating Basis Earthquake,
3. A loss-of-coolant accident requiring actuation of the engineered safeguards, or
4. A main steam line or feedwater line break.

4.4.5.4 Acceptance Criteria

- a. As used in this Specification:

1. Imperfection means an exception to the dimensions, finish or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections.
2. Degradation means a service-induced cracking, wastage, wear or general corrosion occurring on either inside or outside of a tube.
3. Degraded Tube means a tube containing imperfections $\geq 20\%$ of the nominal wall thickness caused by degradation.
4. % Degradation means the percentage of the tube wall thickness affected or removed by degradation.

REACTOR COOLANT SYSTEM

REACTOR COOLANT SYSTEM VENTS

SURVEILLANCE REQUIREMENTS (Continued)

4.4.13.2 Each reactor coolant system vent path shall be demonstrated OPERABLE at least once per ~~18 months~~ by:

REFUELING INTERVAL

- a. Verifying all manual isolation valves in each vent path are locked in the open position.
- b. Verifying flow through the reactor coolant system vent paths with the vent valves open.

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 31 days by verifying the boron concentration of the safety injection tank solution.
- c. At least once per 31 days when the RCS pressure is above 2000 psig, by verifying that power to the isolation valve operator is removed by maintaining the feeder breaker open under administrative control.
- d. Within 4 hours prior to increasing the RCS pressure above 1750 psia by verifying, via local indication at the valve, that the tank isolation valve is open.
- e. At least once per ^{REFUELING INTERVAL} ~~18 months~~ by verifying that each safety injection tank isolation valve opens automatically under each of the following conditions:
 - 1. When the RCS pressure exceeds 300 psia, and
 - 2. Upon receipt of a safety injection test signal.
- f. Within one hour prior to each increase in solution volume of > 1% of normal tank volume by verifying the boron concentration at the operating high pressure safety injection pump discharge is between 2300 and 2700 ppm.

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- e. At least once per ^{REFUELING INTERVAL} ~~18 months~~ by:
1. Verifying automatic isolation and interlock action of the shutdown cooling system from the Reactor Coolant System when the Reactor Coolant System pressure is above 300 psia.
 2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.
 3. Verifying that a minimum total of 100 cubic feet of solid granular trisodium phosphate dodecahydrate (TSP) is contained within the TSP storage baskets.
 4. Verifying that when a representative sample of 4.0 ± 0.1 grams of TSP from a TSP storage basket is submerged, without agitation, in 3.5 ± 0.1 liters of $77 \pm 10^{\circ}\text{F}$ borated water from the RWT, the pH of the mixed solution is raised to ≥ 6 within 4 hours.
- f. At least once per ^{REFUELING INTERVAL} ~~18 months~~, during shutdown, by:
1. Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection Actuation test signal.
 2. Verifying that each of the following pumps start automatically upon receipt of a Safety Injection Actuation Test Signal:
 - a. High-Pressure Safety Injection pump.
 - b. Low-Pressure Safety Injection pump.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per ^{REFUELING INTERVAL} ~~18 months~~, during shutdown, by:
1. Verifying that each automatic valve in the flow path actuates to its correct position on Safety Injection Actuation test signal.
 2. Verifying that each spray pump starts automatically on a Containment Spray Actuation test signal.
- c. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

CONTAINMENT SYSTEMS

3/4.6.3 IODINE REMOVAL SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.3.1 Three independent containment iodine filter trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one iodine filter train inoperable, restore the inoperable train to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1 Each iodine filter train shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.
- b. At least once per ~~18 months~~ ^{refueling interval} or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
 1. Verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the filter train at a flow rate of 20,000 cfm $\pm 10\%$.
 2. Verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the filter train at a flow rate of 20,000 cfm $\pm 10\%$.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the filter train at a flow rate of 20,000 cfm $\pm 10\%$.

refueling interval

d. At least once per ~~16 months~~ by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 6 inches Water Gauge while operating the filter train at a flow rate of 20,000 cfm $\pm 10\%$.
2. Verifying that the filter train starts on a Containment Isolation test signal.



CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS - W

LIMITING CONDITION FOR OPERATION

3.6.5.2 Two independent containment hydrogen recombiner systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.2 Each hydrogen recombiner system shall be demonstrated OPERABLE:

- a. At least once per 6 months by verifying during a recombiner system functional test that the minimum heater sheath temperature increases to $\geq 700^{\circ}\text{F}$ within 90 minutes and is maintained for at least 2 hours.
- b. At least once per ^{REFILLING INTERVAL} ~~18 months~~ by:
 1. Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits.
 2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiners (i.e., loose wiring or structural connections, deposits of foreign materials, etc.)
 3. Verifying during a recombiner system functional test that the heater sheath temperature increases to $\geq 1200^{\circ}\text{F}$ within 5 hours and is maintained for at least 4 hours.
 4. Verifying the integrity of the heater electrical circuits by performing a continuity and resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be $\geq 10,000$ ohms.

PLANT SYSTEMS

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1 At least two component cooling water loops shall be OPERABLE. At least one component cooling water heat exchanger shall be operating and the remaining component cooling water heat exchanger may be in standby.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3.1 At least two component cooling water loops 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 that is not locked, sealed or otherwise secured in position, is in its correct position.
- b. At least once per ^{REFUELING INTERVAL} ~~18 months~~ during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.

PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4.1 At least two independent service water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.4.1 At least two service water loops 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 that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per ^{REFUELING INTERVAL} ~~18 months~~ during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on Safety Injection Actuation and Containment Spray Actuation test signals.

PLANT SYSTEMS

3/4.7.5 SALT WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 At least two independent salt water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one salt water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

- 4.7.5.1 At least two salt water loops 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 that is not locked, sealed, or otherwise secured in position, is in its correct position.
 - b. At least once per ^{REFUELING INTERVAL} ~~18 months~~ during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.