ATTACHMENT "A"

EXISTING SPECIFICATIONS
UNIT 2

EMERGENCY CORE COOLING SYSTEMS

3/4.5.2 ECCS SUBSYSTEMS - T_{avg} GREATER THAN OR EQUAL TO 350°F

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent Emergency Core Cooling System (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

a. One OPERABLE high-pressure safety injection pump,

b. One OPERABLE low-pressure safety injection pump, and

c. One OPERABLE charging pump capable of taking suction from either the boric acid makeup tank or the refueling water storage tank.

d. An independent OPERABLE flow path capable of taking suction from the refueling water tank on a Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal.

APPLICABILITY: MODES 1, 2 and 3*.

ACTION:

a. With one ECCS subsystem inoperable, restore the inoperable subsystem 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. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

*With pressurizer pressure greater than or equal to 400 psia.

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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 power to the valve operators removed:

	Valve Number	Valve Function	Valve Position
a.	HV9353	SDC Warmup	CLOSED
b.	HV9359	SDC Warmup	CLOSED
c.	HV8150	SDC(HX) Isolation	CLOSED
d.	HV8151	SDC(HX) Isolation	CLOSED
e.	HV8152	SDC(HX) Isolation	CLOSED
f.	HV8153	SDC(HX) Isolation	CLOSED
g.	HV0396	SDC Bypass Flow Control	CLOSED
h.	HV8161	SDC(HX) Bypass Flow Isolation	OPEN
i.	HV9420	Hot Leg Injection Isolation	CLOSED
j.	HV9434	Hot Leg Injection Isolation	CLOSED
k.	HV8160	SDC Bypass Flow Control	OPEN
l.	HV8162	LPSI Miniflow Isolation	OPEN
m.	HV8163	LPSI Miniflow Isolation	OPEN

b. At least once per 31 days by:

1. Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and

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

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. Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.

d. At least once per refueling interval by:

1. Verifying automatic isolation of the shutdown cooling system from the Reactor Coolant System when RCS pressure is simulated greater than or equal to 715 psia, and that the interlocks prevent opening the shutdown cooling system isolation valves when simulated RCS pressure is greater than or equal to 376 psia.

SURVEILLANCE REQUIREMENTS (Continued)

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 abnormal corrosion.

e. At least once per refueling interval, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.

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.

c. Charging pump.

3. Verifying that on a Recirculation Actuation Test Signal, the containment sump isolation valves open; and that on a RAS test signal coincident with a high-high containment sump test signal, all the recirculation valves to the refueling water tank close.

f. By verifying that each of the following pumps develops the indicated developed head and/or flow rate when tested pursuant to Specification 4.0.5:

1. High-Pressure Safety Injection pumps developed head, at an indicated flow rate of 650 gpm, greater than or equal to 2142 feet for P017, 2101 feet for P018 and 2103 for P019 (see NOTE 1).

2. Low-Pressure Safety Injection pump developed head greater than or equal to 406.1 feet.

3. Charging pump flow rate greater than or equal to 40 gpm.

g. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying the following flow rates:

1. For High-Pressure Safety Injection pump cold leg injection with a single pump running:

a. The sum of the injection lines flow rates, excluding the highest flow rate, is greater than or equal to 657 gpm for P017 running, 667 gpm for P018 running and 672 gpm for P019 running, and

b. The total pump flow rate is greater than or equal to 900 gpm for P017 running, 913 gpm for P018 running and 918 gpm for P019 running.

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
D. OTHER*** (Cont.)			
41	HV-9333#	High pressure safety injection	NA
44	HV-4057#*	Steam generator secondary coolant sample	NA
48	8"-072-A-552#	Low pressure safety injection	NA
48	HV-9322#	Low pressure safety injection	NA
49	8"-073-A-552#	Low pressure safety injection	NA
49	HV-9325#	Low pressure safety injection	NA
50	8"-074-A-552#	Low pressure safety injection	NA
50	HV-9328#	Low pressure safety injection	NA
51	8"-075-A-552#	Low pressure safety injection	NA
51	HV-9331#	Low pressure safety injection	NA
52	8"-004-C-406	Containment spray inlet	NA
52	HV-9367	Containment spray inlet	NA
53	8"-006-C-406	Containment spray inlet	NA
53	HV-9368	Containment spray inlet	NA
54	HV-9304#	Containment emergency sump recirculation	NA
54	HV-9302#	Containment emergency sump recirculation	NA
55	HV-9305#	Containment emergency sump recirculation	NA
55	HV-9303#	Containment emergency sump recirculation	NA
56	HV-6366	Containment emergency A/C cooling water inlet	NA
57	HV-6372	Containment emergency A/C cooling water inlet	NA
58	HV-6368	Containment emergency A/C cooling water inlet	NA
59	HV-6370	Containment emergency A/C cooling water inlet	NA
60	HV-6369	Containment emergency A/C cooling water outlet	NA
61	HV-6371	Containment emergency A/C cooling water outlet	NA
62	HV-6367	Containment emergency A/C cooling water outlet	NA
63	HV-6373	Containment emergency A/C cooling water outlet	NA
67	3"-157-A-550	Hot leg injection	NA
67	HV-9434	Hot leg injection	NA
71	3"-158-A-550	Hot leg injection	NA
71	HV-9420	Hot leg injection	NA
73A	HV-0352C#	Containment pressure detectors	NA

* Manual valves may be opened on an intermittent basis under administrative control.
*** Valves secured in the ESFAS actuated position are considered OPERABLE pursuant to this specification.
\# Not subject to Type C leakage tests.

ATTACHMENT "B"

EXISTING SPECIFICATIONS
UNIT 3

EMERGENCY CORE COOLING SYSTEMS

3/4.5.2 ECCS SUBSYSTEMS - T_{avg} GREATER THAN OR EQUAL TO 350°F

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent Emergency Core Cooling System (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

a. One OPERABLE high-pressure safety injection pump,

b. One OPERABLE low-pressure safety injection pump, and

c. One OPERABLE charging pump capable of taking suction from either the boric acid makeup tank or the refueling water storage tank.

d. An independent OPERABLE flow path capable of taking suction from the refueling water tank on a Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal.

APPLICABILITY: MODES 1, 2 and 3*.

ACTION:

a. With one ECCS subsystem inoperable, restore the inoperable subsystem 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. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

*With pressurizer pressure greater than or equal to 400 psia.

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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 power to the valve operators removed:

Valve Number		Valve Function	Valve Position
a.	HV9353	SDC Warmup	CLOSED
b.	HV9359	SDC Warmup	CLOSED
c.	HV8150	SDC(HX) Isolation	CLOSED
d.	HV8151	SDC(HX) Isolation	CLOSED
e.	HV8152	SDC(HX) Isolation	CLOSED
f.	HV8153	SDC(HX) Isolation	CLOSED
g.	HV0396	SDC Bypass Flow Control	CLOSED
h.	HV8161	SDC(HX) Bypass Flow Isolation	OPEN
i.	Deleted		
j.	Deleted		
k.	HV9420	Hot Leg Injection Isolation	CLOSED
l.	HV9434	Hot Leg Injection Isolation	CLOSED
m.	HV8160	SDC Bypass Flow Control	OPEN
n.	HV8162	LPSI Miniflow Isolation	OPEN
o.	HV8163	LPSI Miniflow Isolation	OPEN

b. At least once per 31 days by:

1. Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and

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

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. Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.

d. At least once per refueling interval by:

1. Verifying automatic isolation of the shutdown cooling system from the Reactor Coolant System when RCS pressure is simulated greater than or equal to 715 psia, and that the interlocks prevent opening the shutdown cooling system isolation valves when simulated RCS pressure is greater than or equal to 376 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 abnormal corrosion.

e. At least once per refueling interval, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.

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.

c. Charging pump.

3. Verifying that on a Recirculation Actuation Test Signal, the containment sump isolation valves open; and that on a RAS test signal coincident with a high-high containment sump test signal, all the recirculation valves to the refueling water tank close.

f. By verifying that each of the following pumps develops the indicated developed head and/or flow rate when tested pursuant to Specification 4.0.5:

1. High-Pressure Safety Injection pumps developed head, at an indicated flow rate of 650 gpm, greater than or equal to 2093 feet for P017, 2132 feet for P018 and 2099 for P019 (see NOTE 1).

2. Low-Pressure Safety Injection pump developed head greater than or equal to 396 feet at miniflow.

3. Charging pump flow rate greater than or equal to 40 gpm.

g. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying the following flow rates:

1. For High-Pressure Safety Injection pump cold leg injection with a single pump running:

a. The sum of the injection lines flow rates, excluding the highest flow rate, is greater than or equal to 647 gpm for P017 running, 656 gpm for P018 running, and 661 gpm for P019 running, and

b. The total pump flow rate is greater than or equal to 882 gpm for P017 running, 894 gpm for P018 running, and 901 gpm for P019 running.

TABLE 3.6-1 (Continued)
CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
D. OTHER*** (Cont.)			
41	HV-9333#	High pressure safety injection	NA
44	HV-4057#*	Steam generator secondary coolant sample	NA
48	8"-072-A-552#	Low pressure safety injection	NA
48	HV-9322#	Low pressure safety injection	NA
49	8"-073-A-552#	Low pressure safety injection	NA
49	HV-9325#	Low pressure safety injection	NA
50	8"-074-A-552#	Low pressure safety injection	NA
50	HV-9328#	Low pressure safety injection	NA
51	8"-075-A-552#	Low pressure safety injection	NA
51	HV-9331#	Low pressure safety injection	NA
52	8"-004-C-406	Containment spray inlet	NA
52	HV-9367	Containment spray inlet	NA
53	8"-006-C-406	Containment spray inlet	NA
53	HV-9368	Containment spray inlet	NA
54	HV-9304#	Containment emergency sump recirculation	NA
54	HV-9302#	Containment emergency sump recirculation	NA
55	HV-9305#	Containment emergency sump recirculation	NA
55	HV-9303#	Containment emergency sump recirculation	NA
56	HV-6366	Containment emergency A/C cooling water inlet	NA
57	HV-6372	Containment emergency A/C cooling water inlet	NA
58	HV-6368	Containment emergency A/C cooling water inlet	NA
59	HV-6370	Containment emergency A/C cooling water inlet	NA
60	HV-6369	Containment emergency A/C cooling water outlet	NA
61	HV-6371	Containment emergency A/C cooling water outlet	NA
62	HV-6367	Containment emergency A/C cooling water outlet	NA
63	HV-6373	Containment emergency A/C cooling water outlet	NA
67	3"-157-A-550	Hot leg injection	NA
67	HV-9434	Hot leg injection	NA
71	3"-158-A-550	Hot leg injection	NA
71	HV-9420	Hot leg injection	NA
73A	HV-0352C#	Containment pressure detectors	NA

* Manual valves may be opened on an intermittent basis under administrative control.
*** Valves secured in the ESFAS actuated position are considered OPERABLE pursuant to this specification.
\# Not subject to Type C leakage tests.

NPF-10/15-353

ATTACHMENT "C"

REVISED SPECIFICATIONS
UNIT 2

EMERGENCY CORE COOLING SYSTEMS

3/4.5.2 ECCS SUBSYSTEMS - T_{avg} GREATER THAN OR EQUAL TO 350°F

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent Emergency Core Cooling System (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

a. One OPERABLE high-pressure safety injection pump,

b. One OPERABLE low-pressure safety injection pump, and

c. One OPERABLE charging pump capable of taking suction from either the boric acid makeup tank or the refueling water storage tank.

d. An independent OPERABLE flow path capable of taking suction from the refueling water tank on a Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal.

APPLICABILITY: MODES 1, 2 and 3*.

ACTION:

a. With one ECCS subsystem inoperable, restore the inoperable subsystem 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. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

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*With pressurizer pressure greater than or equal to 400 psia.

MAY 16 1983

AMENDMENT NO. 16

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 power to the valve operators removed:

Valve Number		Valve Function	Valve Position
a.	HV9353	SDC Warmup	CLOSED
b.	HV9359	SDC Warmup	CLOSED
c.	HV8150	SDC(HX) Isolation	CLOSED
d.	HV8151	SDC(HX) Isolation	CLOSED
e.	HV8152	SDC(HX) Isolation	CLOSED
f.	HV8153	SDC(HX) Isolation	CLOSED
g.	HV0396	SDC Bypass Flow Control	CLOSED
h.	HV8161	SDC(HX) Bypass Flow Isolation	OPEN
i.	HV9420	Hot Leg Injection Isolation	CLOSED
j.	HV9434	Hot Leg Injection Isolation	CLOSED
k.	HV8160	SDC Bypass Flow Control	OPEN
l.	HV8162	LPSI Miniflow Isolation	OPEN
m.	HV8163	LPSI Miniflow Isolation	OPEN

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cb. At least once per 31 days by:

1. Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and

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

de. 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. Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.

ef. At least once per refueling interval by:

1. Verifying automatic isolation of the shutdown cooling system from the Reactor Coolant System when RCS pressure is simulated greater than or equal to 715 psia, and that the interlocks prevent opening the shutdown cooling system isolation valves when simulated RCS pressure is greater than or equal to 376 psia.

INSERT "A" TO PAGE 3/4 5-3

c. With two Containment Emergency Sump (CES) isolation valves open and two Emergency Core Cooling System (ECCS) Mini-flow valves open in the same train (Containment integrity is not met), follow the ACTION requirements of Technical Specification 3.6.1.1.

INSERT "B" TO PAGE 3/4 5-4

b. At least once per 12 hours by verifying that the following valves are in the positions listed below and power is available to the valve operators.

Valve Number	Valve Function	Valve Position
a. HV-9302	CES Isolation	Closed
b. HV-9303	CES Isolation	Closed
a. HV-9304	CES Isolation	Closed
b. HV-9305	CES Isolation	Closed
c. HV-9306	ECCS train Mini-flow	OPEN
d. HV-9307	ECCS train Mini-flow	OPEN
e. HV-9347	ECCS train Mini-flow	OPEN
f. HV-9348	ECCS train Mini-flow	OPEN

SURVEILLANCE REQUIREMENTS (Continued)

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 abnormal corrosion.

f e. At least once per refueling interval, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.

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.

   c. Charging pump.

3. Verifying that on a Recirculation Actuation Test Signal, the containment sump isolation valves open; and that on a RAS test signal coincident with a high-high containment sump test signal, all the recirculation valves to the refueling water tank close.

g f. By verifying that each of the following pumps develops the indicated developed head and/or flow rate when tested pursuant to Specification 4.0.5:

1. High-Pressure Safety Injection pumps developed head, at an indicated flow rate of 650 gpm, greater than or equal to 2142 feet for P017, 2101 feet for P018 and 2103 for P019 (see NOTE 1).

2. Low-Pressure Safety Injection pump developed head greater than or equal to 406.1 feet.

3. Charging pump flow rate greater than or equal to 40 gpm.

h g. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying the following flow rates:

1. For High-Pressure Safety Injection pump cold leg injection with a single pump running:

   a. The sum of the injection lines flow rates, excluding the highest flow rate, is greater than or equal to 657 gpm for P017 running, 667 gpm for P018 running and 672 gpm for P019 running, and

   b. The total pump flow rate is greater than or equal to 900 gpm for P017 running, 913 gpm for P018 running and 918 gpm for P019 running.

TABLE 3.6-1 (Continued)
CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
D. OTHER*** (Cont.)			
41	HV-9333#	High pressure safety injection	NA
44	HV-4057#*	Steam generator secondary coolant sample	NA
48	8"-072-A-552#	Low pressure safety injection	NA
48	HV-9322#	Low pressure safety injection	NA
49	8"-073-A-552#	Low pressure safety injection	NA
49	HV-9325#	Low pressure safety injection	NA
50	8"-074-A-552#	Low pressure safety injection	NA
50	HV-9328#	Low pressure safety injection	NA
51	8"-075-A-552#	Low pressure safety injection	NA
51	HV-9331#	Low pressure safety injection	NA
52	8"-004-C-406	Containment spray inlet	NA
52	HV-9367	Containment spray inlet	NA
53	8"-006-C-406	Containment spray inlet	NA
53	HV-9368	Containment spray inlet	NA
54	HV-9304# @	Containment emergency sump recirculation	NA
54	HV-9302# @	Containment emergency sump recirculation	NA
55	HV-9305# @	Containment emergency sump recirculation	NA
55	HV-9303# @	Containment emergency sump recirculation	NA
56	HV-6366	Containment emergency A/C cooling water inlet	NA
57	HV-6372	Containment emergency A/C cooling water inlet	NA
58	HV-6368	Containment emergency A/C cooling water inlet	NA
59	HV-6370	Containment emergency A/C cooling water inlet	NA
60	HV-6369	Containment emergency A/C cooling water outlet	NA
61	HV-6371	Containment emergency A/C cooling water outlet	NA
62	HV-6367	Containment emergency A/C cooling water outlet	NA
63	HV-6373	Containment emergency A/C cooling water outlet	NA
67	3"-157-A-550	Hot leg injection	NA
67	HV-9434	Hot leg injection	NA
71	3"-158-A-550	Hot leg injection	NA
71	HV-9420	Hot leg injection	NA
73A	HV-0352C#	Containment pressure detectors	NA

* Manual valves may be opened on an intermittent basis under administrative control.
*** Valves secured in the ESFAS actuated position are considered OPERABLE pursuant to this specification. (Unless otherwise annotated,)
\# Not subject to Type C leakage tests.

@ These valves are surveilled for position and power available by Technical Specification 3/4.5.2.

ATTACHMENT "D"

REVISED SPECIFICATIONS
UNIT 3

EMERGENCY CORE COOLING SYSTEMS

3/4.5.2 ECCS SUBSYSTEMS - T_{avg} GREATER THAN OR EQUAL TO 350°F

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent Emergency Core Cooling System (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

a. One OPERABLE high-pressure safety injection pump,

b. One OPERABLE low-pressure safety injection pump, and

c. One OPERABLE charging pump capable of taking suction from either the boric acid makeup tank or the refueling water storage tank.

d. An independent OPERABLE flow path capable of taking suction from the refueling water tank on a Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal.

APPLICABILITY: MODES 1, 2 and 3*.

ACTION:

a. With one ECCS subsystem inoperable, restore the inoperable subsystem 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. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

INSERT "A"

*With pressurizer pressure greater than or equal to 400 psia.

MAY 16 1983

AMENDMENT NO. 16

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 power to the valve operators removed:

Valve Number		Valve Function	Valve Position
a.	HV9353	SDC Warmup	CLOSED
b.	HV9359	SDC Warmup	CLOSED
c.	HV8150	SDC(HX) Isolation	CLOSED
d.	HV8151	SDC(HX) Isolation	CLOSED
e.	HV8152	SDC(HX) Isolation	CLOSED
f.	HV8153	SDC(HX) Isolation	CLOSED
g.	HV0396	SDC Bypass Flow Control	CLOSED
h.	HV8161	SDC(HX) Bypass Flow Isolation	OPEN
i.	Deleted		
j.	Deleted		
k.	HV9420	Hot Leg Injection Isolation	CLOSED
l.	HV9434	Hot Leg Injection Isolation	CLOSED
m.	HV8160	SDC Bypass Flow Control	OPEN
n.	HV8162	LPSI Miniflow Isolation	OPEN
o.	HV8163	LPSI Miniflow Isolation	OPEN

To sent "B"

c. b. At least once per 31 days by:

1. Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and

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

d. 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. Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.

e. d. At least once per refueling interval by:

1. Verifying automatic isolation of the shutdown cooling system from the Reactor Coolant System when RCS pressure is simulated greater than or equal to 715 psia, and that the interlocks prevent opening the shutdown cooling system isolation valves when simulated RCS pressure is greater than or equal to 376 psia.

INSERT "A" TO PAGE 3/4 5-3

c. With two Containment Emergency Sump (CES) isolation valves open and two Emergency Core Cooling System (ECCS) Mini-flow valves open in the same train (Containment integrity is not met), follow the ACTION requirements of Technical Specification 3.6.1.1.

INSERT "B" TO PAGE 3/4 5-4

b. At least once per 12 hours by verifying that the following valves are in the positions listed below and power is available to the valve operators.

Valve Number	Valve Function	Valve Position
a. HV-9302	CES Isolation	Closed
b. HV-9303	CES Isolation	Closed
a. HV-9304	CES Isolation	Closed
b. HV-9305	CES Isolation	Closed
c. HV-9306	ECCS train Mini-flow	OPEN
d. HV-9307	ECCS train Mini-flow	OPEN
e. HV-9347	ECCS train Mini-flow	OPEN
f. HV-9348	ECCS train Mini-flow	OPEN

SURVEILLANCE REQUIREMENTS (Continued)

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 abnormal corrosion.

f e. At least once per refueling interval, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.

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.

   c. Charging pump.

3. Verifying that on a Recirculation Actuation Test Signal, the containment sump isolation valves open; and that on a RAS test signal coincident with a high-high containment sump test signal, all the recirculation valves to the refueling water tank close.

g f. By verifying that each of the following pumps develops the indicated developed head and/or flow rate when tested pursuant to Specification 4.0.5:

1. High-Pressure Safety Injection pumps developed head, at an indicated flow rate of 650 gpm, greater than or equal to 2093 feet for P017, 2132 feet for P018 and 2099 for P019 (see NOTE 1).

2. Low-Pressure Safety Injection pump developed head greater than or equal to 396 feet at miniflow.

3. Charging pump flow rate greater than or equal to 40 gpm.

h g. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying the following flow rates:

1. For High-Pressure Safety Injection pump cold leg injection with a single pump running:

   a. The sum of the injection lines flow rates, excluding the highest flow rate, is greater than or equal to 647 gpm for P017 running, 656 gpm for P018 running, and 661 gpm for P019 running, and

   b. The total pump flow rate is greater than or equal to 882 gpm for P017 running, 894 gpm for P018 running, and 901 gpm for P019 running.

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
D. OTHER*** (Cont.)			
41	HV-9333#	High pressure safety injection	NA
44	HV-4057#*	Steam generator secondary coolant sample	NA
48	8"-072-A-552#	Low pressure safety injection	NA
48	HV-9322#	Low pressure safety injection	NA
49	8"-073-A-552#	Low pressure safety injection	NA
49	HV-9325#	Low pressure safety injection	NA
50	8"-074-A-552#	Low pressure safety injection	NA
50	HV-9328#	Low pressure safety injection	NA
51	8"-075-A-552#	Low pressure safety injection	NA
51	HV-9331#	Low pressure safety injection	NA
52	8"-004-C-406	Containment spray inlet	NA
52	HV-9367	Containment spray inlet	NA
53	8"-006-C-406	Containment spray inlet	NA
53	HV-9368	Containment spray inlet	NA
54	HV-9304# @	Containment emergency sump recirculation	NA
54	HV-9302# @	Containment emergency sump recirculation	NA
55	HV-9305# @	Containment emergency sump recirculation	NA
55	HV-9303# @	Containment emergency sump recirculation	NA
56	HV-6366	Containment emergency A/C cooling water inlet	NA
57	HV-6372	Containment emergency A/C cooling water inlet	NA
58	HV-6368	Containment emergency A/C cooling water inlet	NA
59	HV-6370	Containment emergency A/C cooling water inlet	NA
60	HV-6369	Containment emergency A/C cooling water outlet	NA
61	HV-6371	Containment emergency A/C cooling water outlet	NA
62	HV-6367	Containment emergency A/C cooling water outlet	NA
63	HV-6373	Containment emergency A/C cooling water outlet	NA
67	3"-157-A-550	Hot leg injection	NA
67	HV-9434	Hot leg injection	NA
71	3"-158-A-550	Hot leg injection	NA
71	HV-9420	Hot leg injection	NA
73A	HV-0352C#	Containment pressure detectors	NA

* Manual valves may be opened on an intermittent basis under administrative control.

*** Valves secured in the ESFAS actuated position, are considered OPERABLE pursuant to this specification.

\# Not subject to Type C leakage tests.

UNLESS OTHERWISE ANNOTATED,

@ These VALVES ARE SURVEILLED FOR POSITION AND POWER AVAILABLE by Technical Specification 3/4.5.2.